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# CHURCHILL COUNTY MASTER PLAN

(2005 Update)

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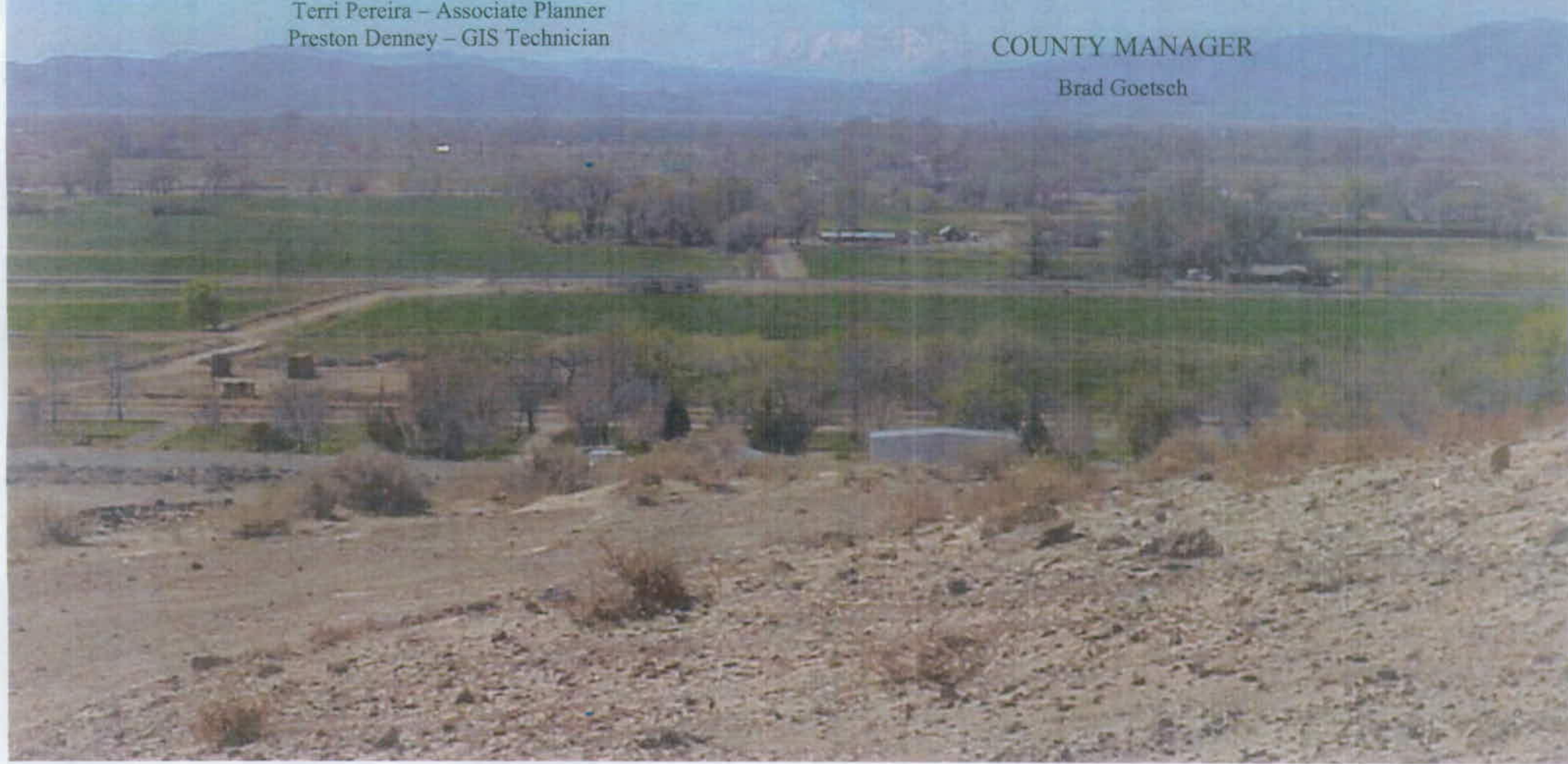
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Brad Goetsch



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### GENERAL HISTORY

Vast tracts of Churchill County's 3,144,320 acres were a part of prehistoric Lake Lahontan, dating to North America's last glaciation which ended about ten thousand years ago.

Prior to the 19th century advent of the white man, Northern Paiutes inhabited the region. Following the seasonal sources of food and resources, these people were nomadic. Westward expansion brought early explorers, among whom were Joseph Walker, Peter Skene Ogden, and Captain James H. Simpson, to what would become Churchill County.

The earliest white man's settlements were way stations for emigrants, but the 19th century mining boom created many camps throughout the region. In 1861, the first mineral discovery was made in the Silver Hill District on the east flank of the Stillwater Range. Most mining of the 19th century was gold, silver, lead, and copper. In the 1880's Churchill County's mineral production included diatomite, gold, iron ore, salt, silver, tungsten, lead, and zinc.

Supplanted by the transcontinental railroad, the short-lived Pony Express traced Captain Simpson's route across the territory. Within Churchill County, major rail routes were established by The Carson & Colorado Railroad during 1880-1883 and the Nevada & California Railroad, which acquired the C&CRR, from 1905 to 1910.

The discovery of silver in the Comstock Lode lead to the development of ranching in the Lahontan Valley about 1860. This provided the mining camps with beef and forage. The first settlers range fed beef cattle from Texas or California on native hay. Techniques in the storage and distribution of irrigation waters from the Carson River were developed slowly, initially to irrigate hay land. Alfalfa was introduced about 1864 and a few acres were cultivated for orchards. In the early 1870's sheep were introduced for mutton and wool.

Irrigated fields became necessary to produce sufficient hay or grain to feed the stock and with this came water right issues. In 1870

no more than 1,000 acres were irrigated, by 1880 it was 5,000 acres. By 1902 over 20,000 acres of water righted land existed.

In 1902, the Newlands Reclamation Act, named for its framer U.S. Senator from Nevada Francis G. Newlands, created the federal government's largest irrigation project to that date. With the completion of Lahontan Dam in 1915, the agricultural industry of Churchill County blossomed with waters from the Carson and Truckee rivers.

Another major 20th century boom to Churchill County's economy came in the 1940's. At the urging of U.S. Senator Patrick McCarran, the Army Air Force selected Fallon as the site for an air base. Completed by the Navy, the station was commissioned on June 10, 1944. Today the Fallon Naval Air Station is one of the country's major military training bases.

Churchill County, named for Fort Churchill in turn named for General Sylvester Churchill, was created by the Territorial Act of November 5, 1861, which organized the first nine counties of Nevada. The first county seat was Bucklands, declared by act on November 25, 1861. Population shifts in Churchill County resulted in three county seat relocations. La Plata was designed by act of February 19, 1864; Stillwater, by act of the state legislature in 1868; and Fallon, by an act approved March 5, 1903.

### MASTER PLAN PROCESS

Local governments have been directed by the State of Nevada to prepare and adopt master plans. Nevada Revised Statutes (NRS) section 278.150 requires:

- "1. *The planning commission shall prepare and adopt a comprehensive, long term general plan for the physical development of the city, county or region which in the commission's judgement bears relation to the planning thereof.*
2. *The plan shall be known as the master plan, and must be so prepared that all or portions thereof ... may be adopted by the governing body ... as a basis for the*

*development of the city, county or region for such reasonable period of time next ensuing after the adoption thereof as may practically be covered thereby."*

The intended content and organization of this master plan, to be known as the "Churchill County 1990 Master Plan", is suggested in the NRS sections.

In 1994 the Master Plan was updated to reflect changes caused by major issues of water supply, growth, and federal government regulations, which developed since 1990. In 2002 another major update was prepared to reflect changes in data, much of which was generated by the 2000 Census.

When the Master Plan was developed in 1990 it covered a planning horizon of 20 years. Future projections and predictions become more speculative and less reliable as the time period increases. During the next eight years the master plan will be reviewed, at least every two years and, if necessary, amended to reflect the current data, interests and goals of the residents. In the year 2009 the current Master Plan should be evaluated and re-written for the next twenty year planning horizon.

To ensure the maximum coordination of plans during the implementation of the master plan or plan amendments, public involvement is required in the process. This may include inventorying public needs, identifying significant issues and problems, defining basic goals, choosing priorities and clarifying policies. All these planning activities require a high level of community participation.

Many county departments, the City of Fallon, special districts, and state and federal agencies are involved in various aspects of the physical development of Churchill County. Without exception, staff members from these entities have given generously of their time and knowledge in assisting in the development of the master plan. The complexity of the system of authority and responsibility makes coordination of government plans and programs difficult. At the same time, the power of this system and the limited scope of individual agencies means that maximum cooperation is necessary to avoid haphazard and costly uncoordinated future agency development.

A considerable body of study material and public opinion was

prepared in 1988 and 1989 by a Master Plan Task Force. The members of the Task Force were community residents. Additional research work was completed in 1993 by the Planning Commission. These were included as part of the basic data in the master plan research.

The master plan defines the goals of Churchill County, provides conclusions developed from analysis and research of the issues, and presents objectives by which the goals can be attained. **The master plan should be considered to be a comprehensive policy statement, which will guide the future development of Churchill County for the protection of the community.** It represents decisions that have been made to establish the physical extent and the character of the community within the 20-year planning period. In addition, it quantifies the cost of the planned growth to the community in terms of additional infrastructure, services, and facilities which will be required.

During the development of the Master Plan in 1990 the future of the Naval Air Station (NAS) Base Operation and the consequences of political pressures to change significantly the surface water allocation and management in Churchill County were unknown.

Since 1995 the Naval Air Station has continued to hold its own. With the establishment of Top Gun the NAS has become the top military training center in the nation for naval pilots. In addition, since 9/11 and the War on Terrorism the NAS provides training for national and foreign troops. Although the NAS has not expanded significantly its status is unlikely to diminish at least through the projected planning period.

The water issues, however, have the potential for imposing severe limitations on growth. The consequences of federal actions and upstream interests, reducing the amount of water available for irrigation is already apparent, particularly on the Swingle Bench. In this area the agricultural industry has dramatically declined leading to lower water levels in domestic wells, a reduction in wildlife habitat, dead trees and an increasing dust problem. A decline in the acreage under irrigation will have a drastic impact on the environment, the aquifers that sustain the County water supply and on the economy. It is paramount that the Churchill County community realizes these imminent impacts and act quickly to prepare for our future.



## 2. POPULATION CHARACTERISTICS

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- GOALS:**
1. A growth rate consistent with available resources, services, and infrastructure. ...
  2. A population characterized by diversity.

## 2. POPULATION CHARACTERISTICS

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In the fastest growing areas of the United States such as Nevada, Arizona, Florida, and California, population increase is due especially to migration. Migration plays a basic role in redistributing population from weak and declining areas to strong and growing ones.

Net migration has tended to flow:

- \* "up the urban ladder" - from rural areas and small places to large cities,
- \* from regions of economic stagnation to regions of greater growth,
- \* from discriminatory areas to those of lesser discrimination,
- \* from deprived or rugged areas to areas having more amenities, such as from inner cities to suburbs or rural areas and from harsher climates to a more pleasant environment.

Population growth reflects these flows. Natural increase and loss, the other components of population change, can modify the effects of migration.

There are very large land areas that have small to average population gains only because a large natural increase offsets net out-migration. In these areas, the economy is expanding too slowly to utilize even natural gain. Many large land areas consisting of mixed agriculture and small towns and cities also follow this pattern. Here, large out-migration from many rural areas is concealed by an equally large natural increase or by slight gains from in-migration. However, in the rural areas of the south and Midwest and in isolated hilly areas everywhere, the out-migrations are so great as to include perhaps one-third of the population in one decade. Natural increases cannot make up the difference. In both the case of absolute population loss and in the preceding example of small population gains due to natural increase, usually much of the out-migration is of the younger, most productive age groups. Thus, prospects of economic growth in those areas are greatly diminished.

As new industrial jobs emerge, the population will continue to grow. There is sufficient land and water to support population growth in Churchill County. Naval Air Station activities **have increased**. It appears that new business and industrial entities are impacting the population in the county. **Additionally, strong industrial development is occurring in areas just adjacent to and in short commuting distance to Churchill County. This growth is in part due to the need for available land and lower operating costs that are increasingly difficult to find in the larger urban areas of western Nevada. As more and more employment opportunities are created, the population of Churchill County will continue to be impacted.**

Population forecasts are used to assist public officials and others in making a variety of decisions. These decisions include public works infrastructure, economic development, and sundry other important activities that have an impact on the community. These decisions are often dependent on projecting population movements over long periods. Reliable population forecasts are required to support investment strategies for major capital improvement projects such as transportation networks, water delivery, wastewater treatment systems, and landfill operation for trash. Other uses of population forecasts include determining long-term needs for schools, medical facilities and low-cost housing, or for justifying major commercial and residential developments.

A method for making population estimates and projections has been, in the past, merely moving the past trends forward. These trends include births, deaths, school enrollments, or other variables reflective of population change. Projection methods based on these data work reasonably well for large population areas over short periods.

Population figures and estimates are taken from the University of Nevada, Reno, Bureau of Business and Economic Research data. This source data is chosen because the Census Bureau has consistently under-estimated population in Nevada. It has used a method that relies on school enrollment data for deriving in-migration rates. Although the method is reliable for most states, it falls short in



## 2. POPULATION CHARACTERISTICS

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predicting population changes in states with high in-migration rates. Nevada is now ranked first in the nation in net total migration.

Another factor to consider in estimating population is age distribution. The Census Bureau's population forecast, for the years 1990 and beyond, shows Nevada's younger population (under 18 years of age) as a smaller portion of the State's population than is forecasted nationally or in other western states.

Nevada's older generation, age 65 and older, is growing rapidly. Growth of Nevada's elderly population is one of the highest in the Nation. However, the affects of an aging population may be somewhat moderated in Nevada due to a large influx of relatively younger households and families seeking employment opportunities, and *because of* high birth rates in the State. Many of this age group are moving to Nevada from California. With home values in California for the most part two or three times greater than in rural and suburban Nevada, a phenomenon is occurring. Numbers of the older generation are selling their homes in California and buying homes of the same or better quality in Nevada at lower cost. This allows them to utilize the money saved on home purchase for other retirement expenses. With Nevada's many favorable living conditions, the number of elderly and the percentage of the older population sector to the total population are expected to continue to increase. In Churchill County the percentage of the population age 65 and older has actually declined from 12.8 percent in 1990 to 11.9 percent in 2000 (U.S. Census 1990 and 2000). Table 1 and 1A provide information on age distribution in Churchill County. The decline in the age 65 and older population most likely reflects growth generated by job opportunities and economic development with younger working age families moving to the area. With economic development and job growth typically comes more family households. In Churchill County, for example, family households account for more than 72 percent of all households, which is higher than the percentage of family households in the State (66.3%) and nation (68.1%).

The base used for population projections is the State

employment-based projected population for Churchill County. In addition, consideration was given to postal delivery figures, utility hookups, school enrollments, residential telephone lines, residential construction, tax roll residence property, and other indices. These were included to determine the best estimate of growth factors and to fine tune the State's projections. The following population data tables and charts, pages 2-4 through 2-8, reflect population projections from a variety of sources. The estimates and projections made by the State Demographer are through 2022.

Recently, Churchill County completed its draft water resource plan. Population forecasts in the plan utilize a constant 3 percent growth rate for the County through 2025 (See Chart 2-3). The Water Plan assumes a much higher rate of growth as compared to the State Demographer's forecast. Therefore a reasonable range of future population growth might be 1 to 3 percent over the next 10 to 20 years. In a state with such high growth rates it is difficult to predict population beyond a five-year period. Historic growth rates for Churchill County have been around 3 percent annually.

## 2. POPULATION CHARACTERISTICS

CHART 2-1

### POPULATION ESTIMATES AND PROJECTIONS FOR THE STATE OF NEVADA, 2002-2022

Source: Nevada State Demographer's Office June 2002

	Carson City	Churchill	Clark	Douglas	Elko	Esmeralda	Eureka	Humboldt	Lander	Lincoln	Lyon	Mineral	Nye	Pershing	Storey	Washoe	White Pine	State Total
2001	54,171	24,928	1,485,855	43,450	46,668	1,038	1,506	16,164	5,761	3,861	37,329	4,743	34,384	6,873	3,714	353,271	8,783	2,132,498
2002	55,136	25,078	1,560,653	43,488	47,324	1,043	1,559	16,414	5,747	3,849	38,520	4,505	35,843	6,818	3,724	357,776	8,551	2,216,028
2003	56,075	25,249	1,634,633	43,690	47,648	1,044	1,593	16,536	5,698	3,833	39,631	4,295	37,178	6,737	3,733	362,458	8,305	2,298,336
2004	56,991	25,438	1,701,472	43,967	47,853	1,048	1,620	16,604	5,647	3,824	40,662	4,120	38,439	6,653	3,744	367,390	8,073	2,373,543
2005	57,880	25,636	1,761,614	44,308	47,997	1,052	1,643	16,634	5,596	3,824	41,615	3,980	39,652	6,569	3,755	372,504	7,857	2,442,116
2006	58,736	25,852	1,814,330	44,686	48,107	1,056	1,662	16,635	5,546	3,834	42,483	3,873	40,815	6,486	3,765	377,760	7,660	2,503,286
2007	59,558	26,080	1,860,995	45,082	48,219	1,060	1,678	16,617	5,500	3,852	43,272	3,788	41,934	6,403	3,775	383,074	7,475	2,558,363
2008	60,342	26,313	1,901,936	45,484	48,359	1,065	1,694	16,588	5,459	3,877	43,988	3,724	43,013	6,323	3,785	388,317	7,307	2,607,574
2009	61,075	26,530	1,937,629	45,839	48,486	1,070	1,709	16,550	5,427	3,913	44,621	3,676	44,028	6,243	3,790	393,283	7,150	2,651,018
2010	61,769	26,759	1,969,348	46,139	48,621	1,076	1,724	16,518	5,403	3,953	45,175	3,641	44,985	6,166	3,791	398,003	7,008	2,690,078
2011	62,446	27,004	1,997,984	46,413	48,804	1,082	1,740	16,501	5,388	3,995	45,660	3,615	45,881	6,095	3,788	402,645	6,887	2,725,929
2012	63,094	27,255	2,023,697	46,672	49,043	1,089	1,754	16,497	5,385	4,037	46,077	3,597	46,697	6,025	3,784	407,142	6,790	2,758,635
2013	63,717	27,502	2,046,472	46,934	49,338	1,096	1,767	16,510	5,390	4,084	46,431	3,587	47,441	5,960	3,781	411,483	6,718	2,788,212
2014	64,320	27,752	2,066,098	47,215	49,706	1,104	1,780	16,547	5,404	4,137	46,733	3,588	48,121	5,901	3,781	415,688	6,662	2,814,538
2015	64,905	28,003	2,082,455	47,532	50,141	1,113	1,794	16,604	5,428	4,194	46,992	3,600	48,745	5,848	3,782	419,765	6,620	2,837,522
2016	65,463	28,253	2,095,751	47,864	50,629	1,124	1,809	16,677	5,461	4,250	47,214	3,624	49,308	5,799	3,783	423,712	6,592	2,857,313
2017	65,996	28,511	2,106,179	48,209	51,163	1,134	1,825	16,767	5,502	4,308	47,414	3,654	49,836	5,755	3,786	427,573	6,568	2,874,179
2018	66,506	28,768	2,113,893	48,589	51,730	1,145	1,842	16,872	5,543	4,366	47,604	3,692	50,337	5,718	3,791	431,415	6,552	2,888,362
2019	66,993	29,022	2,119,383	48,994	52,333	1,156	1,862	16,982	5,593	4,421	47,786	3,734	50,816	5,684	3,798	435,292	6,539	2,900,390
2020	67,466	29,281	2,123,277	49,410	52,956	1,169	1,883	17,098	5,646	4,475	47,963	3,777	51,283	5,655	3,807	439,284	6,529	2,910,959
2021	67,936	29,545	2,126,384	49,818	53,605	1,180	1,904	17,216	5,698	4,522	48,134	3,817	51,733	5,627	3,821	443,450	6,516	2,920,906
2022	68,409	29,811	2,129,147	50,225	54,275	1,189	1,924	17,333	5,751	4,562	48,304	3,853	52,178	5,600	3,836	447,794	6,500	2,930,691

#### Average Growth Rates

1991-2001	2.5%	2.9%	5.9%	3.6%	2.7%	-1.3%	-0.7%	1.8%	-1.0%	0.1%	5.5%	-2.6%	6.3%	3.8%	3.6%	2.9%	-0.5%	4.9%
2001-2011	1.4%	0.8%	3.0%	0.7%	0.4%	0.4%	1.5%	0.2%	-0.7%	0.3%	2.0%	-2.7%	2.9%	-1.2%	0.2%	1.3%	-2.4%	2.5%
2012-2022	0.8%	0.9%	0.6%	0.7%	1.0%	0.9%	0.9%	0.4%	0.6%	1.2%	0.5%	0.6%	1.2%	-0.8%	0.1%	1.0%	-0.5%	0.7%
2001-2022	1.1%	0.9%	1.7%	0.7%	0.7%	0.7%	1.2%	0.3%	0.0%	0.8%	1.2%	-1.0%	2.0%	-1.0%	0.2%	1.1%	-1.4%	1.5%

## 2. POPULATION CHARACTERISTICS

### CHART 2-2

#### POPULATION ESTIMATES AND PROJECTIONS FOR CHURCHILL COUNTY, 2000-2025

Source: Churchill County Water Resources Plan, 2000

	2000	2005	2010	2015	2020	2025
Churchill County	25,628	29,710	34,442	39,928	46,287	53,660

### CHART 2-3

#### POPULATION – CHURCHILL COUNTY & FALLON

Source: Governor Certified July 1, 1986 to July 1, 2000

Estimates from NV Department of Taxation and NV State Demographer, University of NV, Reno

	Percent		Percent		Percent		Percent		Percent	
	JULY 01	Change	JULY 01	Change	JULY 01	Change	JULY 01	Change	JULY 01	Change
	2000	00-99	1999	99-98	1998	98-97	1997	97-96	1996	96-95
Churchill County	26,247	3.7%	25,310	5.4%	24,020	0.7%	23,860	5.7%	22,580	4.3%
Fallon	8,386	1.3%	8,280	4.7%	7,910	-3.5%	8,200	6.1%	7,730	1.8%

## 2. POPULATION CHARACTERISTICS

**TABLE 2-1**

CHURCHILL COUNTY, INCLUDING FALLON, POPULATION DISTRIBUTION BY AGE. 2001-2020

Source: Nevada State Demographer

YEAR	5 YEARS AND UNDER		6 – 18 YEARS		19 – 64 YEARS		65 YEARS +	
	Number	%	Number	%	Number	%	Number	%
2001	2,301	9.2	5,265	21.1	14,468	58.0	2,894	11.6
2005	2,363	9.2	5,203	20.3	15,073	59.0	2,996	11.8
2010	2,423	9.1	5,254	19.6	15,869	59.3	3,212	12.0
2015	2,558	9.1	5,303	19.0	16,525	59.0	3,616	12.9
2020	2,720	9.3	5,534	19.0	16,887	57.7	4,139	14.1

**TABLE 2-2**

CHURCHILL COUNTY, INCLUDING FALLON, POPULATION DISTRIBUTION BY AGE. 1990 AND 2000

Source: U.S. Census

Age	1990	2000
0-4	8.4%	8.0%
Under 18	28.2%	28.9%
18-65 yrs	59.0%	59.2%
65 and older	12.8%	11.9%
Median Age	33.0 years	34.7 years

## 2. POPULATION CHARACTERISTICS

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### OBJECTIVES:

1. Conduct an annual review of population summary to include natural increases and decreases, migration in, out and net.
2. Review demographic projections and revise accordingly.
3. Evaluate impact of population changes on infrastructure.

### 3. CONSERVATION

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#### GOALS:

1. Highest level of standards in all aspects of environmental use to protect the quality of air, water, and soil and protect the ecosystem.
2. Protect and preserve the water rights in Churchill County.
3. Protect and preserve Churchill County's rights to regulate the transportation of hazardous materials through the county.

Churchill County faces a period of energetic growth as projected by trends in both population and economic development. Along with the positive changes that can be anticipated with this growth, the planning of efficient resource usage and management is necessary to ensure that the overall environment is not harmed.

Within Churchill County there are plants and animals on the threatened and endangered species lists. Any development must be cognizant of current regulations in place to protect these species.

The Conservation Component contains information about ecological elements of the Churchill County environment:

- \* Flood Zones,
- \* Protected and Wildlife Areas,
- \* Hazardous Waste,
- \* Air Quality,
- \* Soil.

In addition to describing the status of these elements, the component identifies potential problem areas and steps, which can be taken to mitigate against these problems.

The present urban growth occurring in the Carson River Basin is stressing the natural system, which in turn is stressing the urbanizing environment with air and noise pollution, restriction of resources, infrastructure decay, and higher costs for services. The principle geohydrological hazards are seismic, flood, and other mass earth movement such as landslides and erosion. Not only is each of these hazards a threat, but there is potential for them to work in combination with each other, thereby magnifying danger to lives and property through their cumulative effects. Hazards from man-made waste and emissions have given and will continue to give cause for serious concern as the healthful quality of the environment is affected. In addition to confronting, responding, and financing solutions to meet these hazards, there is the additional pressure of maintaining an environment for wildlife.



### 3. CONSERVATION

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#### FLOOD ZONES

Churchill County's major area of potential flooding is a result of the entire Carson River Basin water system. Snow accounts for the greatest percentage of precipitation within the Carson River Basin over the long term. However, winter rains can be significant especially on the eastern and lower parts of the Basin. Intense unpredictable rains on snow pack in the Sierras can cause severe flooding along the courses of the Carson and Truckee Rivers.

The major source of flooding in Churchill County is the Carson River below Lahontan Dam and flows that spill from it. This is the eastern and lower part of the Carson River Basin, which extends from the source of the Carson River in the Sierras to its terminus in the Carson Sink. The area also includes the Truckee Canal, which carries Truckee River water into the basin for irrigation use on the Newlands Irrigation Project.

Summer thunderstorms usually affect small areas less than one square mile, but deliver large volumes of water relative to the size of the drainage area. In a short time, these storms can cause severe local floods and are one of the main natural land forming agents.

The only major flooding of the eastern reach of the Carson River, since the construction of the Lahontan Dam in 1915, occurred in 1983. An extremely heavy snow pack that year followed by warm weather caused high run-off. This run-off filled the Lahontan Reservoir and the resultant flow over the spillway caused damage downstream to some homes, land, and roads. The only other major flood in the area occurred in 1906 before the construction of the dam; minor flooding was experienced in 1952.

There are no flood records for the lower Carson River for the 1906 and 1952 floods, therefore, there are no estimates for recurrence intervals for major floods. The recurrence interval for the 1983 flood is estimated as approximately the 25-year event.

The Newlands Irrigation Project includes canals and ditches

which divert irrigation water from the Carson River. It is assumed that for major flood flows these canals will already be full and thus unable to reduce peak discharge. The V-line canal parallels the Carson River approximately 1,800 feet to the south. Upstream of Highway 50, the embankment of the V-line canal acts as a levee to prevent flood flows from escaping the Carson River flood plain and flowing down the New River Drain. Hydraulic analysis indicates that the V-line canal embankment will be overtopped by less than one foot during the 100-year flood (100 year floods are events which have a 1% chance of being equaled or exceeded during any year). The analysis also indicates that the embankment would fail.

MAP # 3-1 shows the 100 and 500-year flood plains for the area.

Encroachment on flood plains, such as structures and landfill, reduces the flood carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. For the National Flood Insurance Program (NFIP), a floodway is used as a tool to assist local communities in flood management.

The area of the 100-year flood plain is divided into "floodway" and "floodway fringe". The floodway is the channel of a stream, plus any adjacent flood plain areas that must be kept free of encroachment so the 100-year flood can be carried without substantial increases in flood heights. Data are available from the Federal Emergency Management Agency (FEMA) providing the required width of the floodway along the Carson River.

The area between the floodway and the 100-year flood plain boundaries is the floodway fringe. This encompasses the portion of the flood plain that could be completely obstructed without increasing the water surface elevation of the 100-year flood by more than one foot at any point.

Title 19 of the Churchill County Code adequately defines and describes the ordinances which fulfil FEMA compliance based upon

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the latest data, dated November 1985 and for some areas January 1999. The development of a financial plan for the acquisition of property within the flood plain as it becomes available, would allow the development of recreational areas and wildlife habitat. This serves to protect against encroachment and minimize flood hazard effects on property. Land use within the 100-year flood plain area should be limited, as much as possible, to greenbelt and agriculture.

There are operational and maintenance steps necessary to mitigate against flood hazard. To be effective, they require a system of monitoring and enforcement controls. The steps include such things as: erosion control, repair of structures, removal of debris, bank stabilization, rip rap, and access to the entire length of the drainage ways.

In 1989 state legislation was passed regarding the clearance, surveying, and monumenting of navigable rivers. Carson River is such a river. The legislation provides immunity from civil liability for a period of four years. The Bill sunset on June 30, 1993.

1. The channel clearance, surveying and monumenting program is hereby established and must be administered by the State Engineer.

2. This program is to aid local governments in this state in the clearance, surveying and monumenting of navigable rivers.

3. Any incorporated city, county or other political subdivision of this state may apply to the State Engineer for a grant under this program if:

- a. Sufficient federal money is not available for the proposed project;
- b. The incorporated city, county or other political subdivision requesting the money agrees to match the state grant equally with its money; and
- c. The amount requested does not exceed the balance available.

4. The state, its departments, divisions and agencies, an

incorporated city, a county and all other political subdivisions of the state, and their employees and agents, are immune from civil liability for damages caused by an alteration or disturbance of a riverbed or flooding sustained as a result of any act or omission by an employee or agent in clearing or causing to be cleared a channel of navigable river pursuant to this section if the channel is cleared pursuant to a permit granted by the Division of State Lands of the State Department of Conservation and Natural Resources and such other permits and approvals as are required by law.

5. As used in this section, "navigable river" means a river or stream that is used, or is susceptible of being used, in its ordinary condition for trade or travel in the customary modes of trade or travel on rivers or streams.

#### ANNOTATIONS

Attorney General's Opinions: AGO 80-11 (4-8-1980)

#### Question One

Who has the authority to seek removal of structures which may encroach upon the natural channel of the Carson River or structures which are otherwise vulnerable to flood damage during high water releases?

#### Conclusion - Question One

*It is the opinion of this office that the State Engineer, an irrigation district, the Division of State Lands, the local counties through their district attorneys, and the United States all have the authority to seek removal of structures which may encroach upon the natural channel of the Carson River. It is the further opinion of this office that irrigation districts and flood control districts have the authority to acquire lands containing improvements which are vulnerable to flooding during high water releases, but which lands are not located below the high-water mark of the Carson River.*

#### Question Two

Who has the responsibility, if any such exists, for maintaining or improving the Carson River channel to maintain its water capacity to

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avoid flood damage to adjoining property?

#### **Conclusion - Question Two**

*It is the opinion of this office that the United States, as well as cities, counties, and public districts, including irrigation districts and flood control districts, have the authority to maintain or improve the Carson River channel to assure its water capacity or to avoid flood damage to adjoining property. No federal or state statute sets forth a definite duty to perform such projects. However, an entity that operates and controls a dam in a navigable river may have a duty or responsibility to take necessary steps to make provision for the river to have the capacity to safely conduct waters which it can foresee may have to be released into the river in connection with the operation of the dam.*

#### **Question Three**

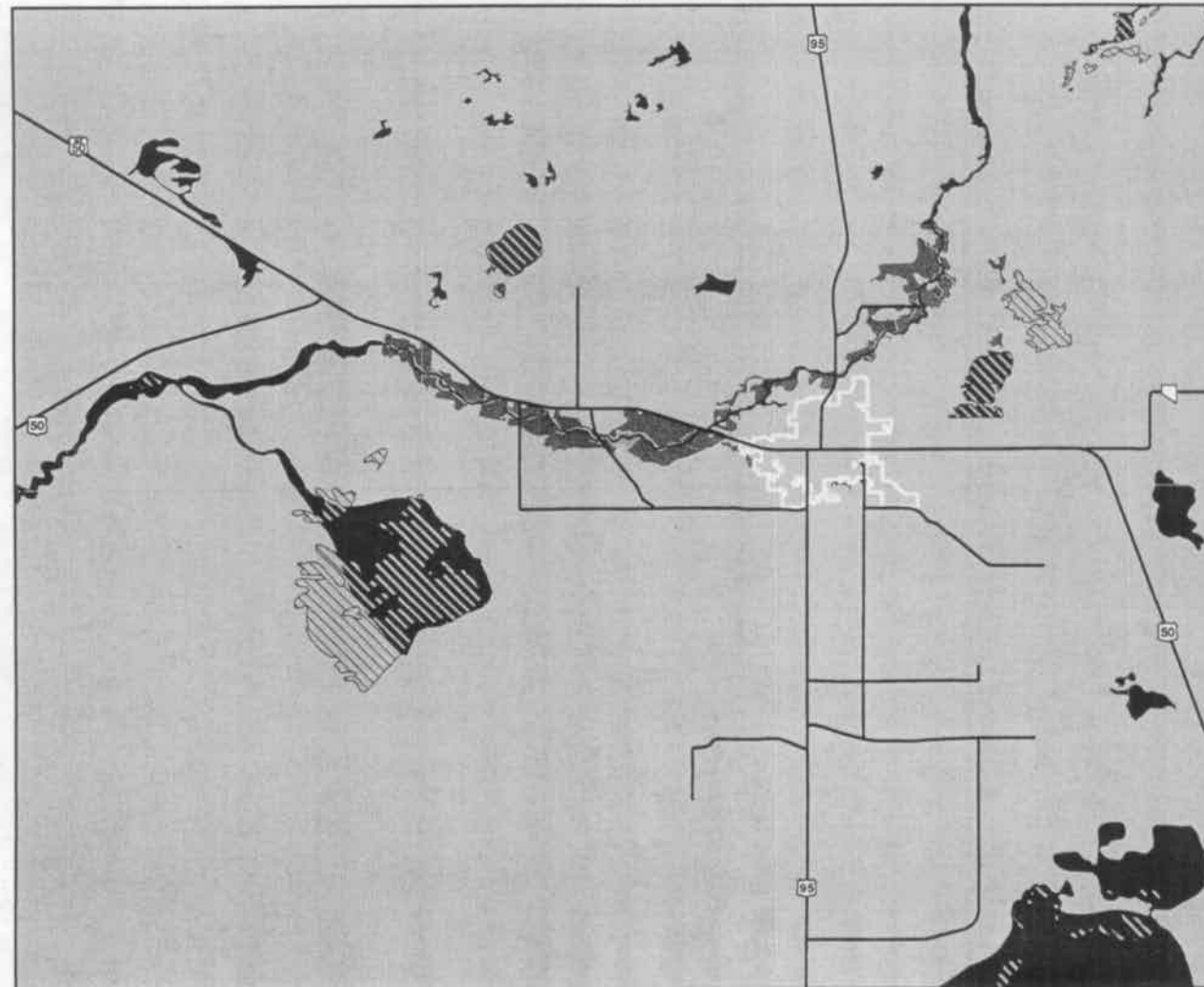
Is T.C.I.D. liable for any downstream property damage occasioned by its releases of water from Lahontan Dam, either (a) when the amount released does not exceed the quantity of upper Carson River water discharged into Lahontan Reservoir, or (b) when, for whatever reason, the Truckee-Carson Irrigation District is compelled to discharge water from Lahontan Dam in excess of the upper river discharge?

#### **Conclusion - Question Three**

*It is the opinion of this office that the liability of T.C.I.D. for any downstream property damage occasioned by its release of water from Lahontan Dam would depend upon the facts in the individual circumstance and that, therefore, no broad answer to the question can be given.*

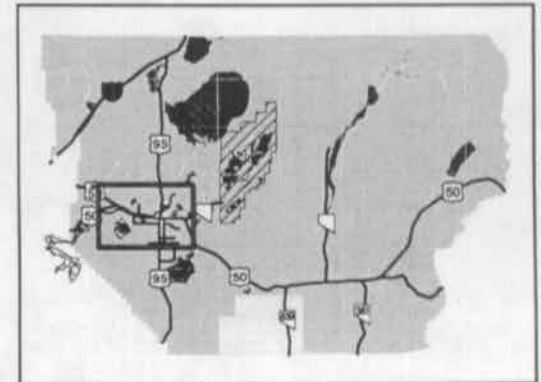
# Churchill County Nevada 100 and 500 Year Flood Plains

Map 3-1



1 0.5 0 1 2 3 4 Miles

1 inch equals 2 miles



10 5 0 10 20 30 40 Miles

1 inch equals 24 miles

## Legend

- Zone A (100 Year Flood Plain, Undetermined Base Flood Elevation)
- Zone A2 (100 Year Flood Plain, Base Flood Elevation Determined)
- Zone A4 (100 Year Flood Plain, Base Flood Elevation Determined)
- Zone B (500 Year Flood Plain)
- Zone C (Areas of Minimal Flooding)
- Zone D (Undetermined, But Possible, Flood Hazard)
- City of Fallon
- Stillwater National Wildlife Refuge
- Fallon National Wildlife Refuge
- Lakes & Reservoirs
- State Maintained Roads
- Carson River



Map prepared by  
Churchill County Planning Department  
Preston Denney June 2003

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#### FEDERAL LANDS FOR PROTECTED AREAS AND WILDLIFE

(MAP #3-2 shows the Federal and State Lands)

Churchill County comprises approximately 3,144,000 acres. Of this area approximately 85% is in Federal ownership. The remaining land, approximately 400,000 acres, is in private and local public agency ownership. Lahontan Valley was once a lake covering five million acres of northwest Nevada and a part of northeast California. Remnants of this vast lake are Pyramid Lake, Walker Lake, Honey Lake, and the Stillwater Marshes.

Churchill County's Lahontan Valley includes the lower Carson River and its delta, Carson Lake, Stillwater Marsh, and other smaller wetlands, which historically comprised the largest wetland system in Nevada (approximately 150,000 acres). The value of these areas as wildlife habitat has long been recognized.

In 1931, Fallon National Wildlife Refuge (NWR) (17,800 acres) was designated by Executive Order to provide a refuge for birds and wild animals at the terminus of the Carson River and southern portion of the Carson Sink.

In 1948, a 50-year agreement between the Truckee-Carson Irrigation District, the State of Nevada, and the Department of Interior (Fish and Wildlife Service) established the Stillwater Wildlife Management Area (WMA) adjacent to Fallon NWR to conserve and manage wildlife and their habitat while providing public hunting, livestock grazing, and muskrat trapping. The Stillwater WMA encompassed approximately 200,000 acres, including 140,000 acres of public lands withdrawn by the Bureau of Reclamation for the Newlands Reclamation Project along the lower Carson River, Stillwater Marsh, and surrounding upland areas. Also under this agreement, 24,200 additional acres of the Stillwater Marsh were established as the Stillwater National Wildlife Refuge in 1949 as a wildlife sanctuary closed to all public access. The agreement expired in 1998, but the areas continued to be managed by the Fish and

Wildlife Service under agreement with the Bureau of Reclamation.

In 1990, Public Law 101-618 expanded the boundaries of Stillwater NWR to 79,570 acres, incorporating a portion of the Stillwater WMA. The added portion remained open to public use, while the original 24,200 acres remained as sanctuary.

In 2002, the Fish and Wildlife Service submitted a proposal to Congress to modify the boundaries of Stillwater NWR. This proposal would consolidate portions of the Stillwater WMA and Fallon NWR, as well as riverine riparian habitat along the Carson River and sand dune habitat, into one refuge. Under this proposal, the Stillwater NWR would encompass approximately 137,500 acres.

Stillwater NWR contains a wide variety of wildlife habitat, including freshwater and brackish water marshes, riverine riparian areas, alkali playas, salt desert shrublands, and sand dunes, which attract nearly 400 species of wildlife, including over 260 bird species. Waterfowl, shorebirds, and other water birds are abundant during the spring and fall migrations. Over 200,000 ducks have been recorded on the refuge during the fall. In many years, up to 70 percent of Nevada's migrating waterfowl rely on the Lahontan Valley wetlands.

Public hunting is part of the heritage of the Stillwater Marsh. Stillwater NWR management places the needs of wildlife in first priority, but strives to accommodate wildlife-dependent public use, such as hunting, wildlife observation and photography, environmental education and interpretation.

Maintenance of quality wetland habitat in the Lahontan Valley is dependent on a reliable, dedicated source of water. Since the early 1900's, both the quality and quantity of wetland habitat in Lahontan Valley has been significantly reduced due to drought and water diversion. In 1992, wetlands were receiving only irrigation drain water and reservoir spill water and fewer than 2,000 acres of wetlands remained in the Lahontan Valley. A water rights acquisition program has been initiated to dedicate water to the wetlands. Stillwater NWR management objectives include maintaining a long-term average of

### 3. CONSERVATION

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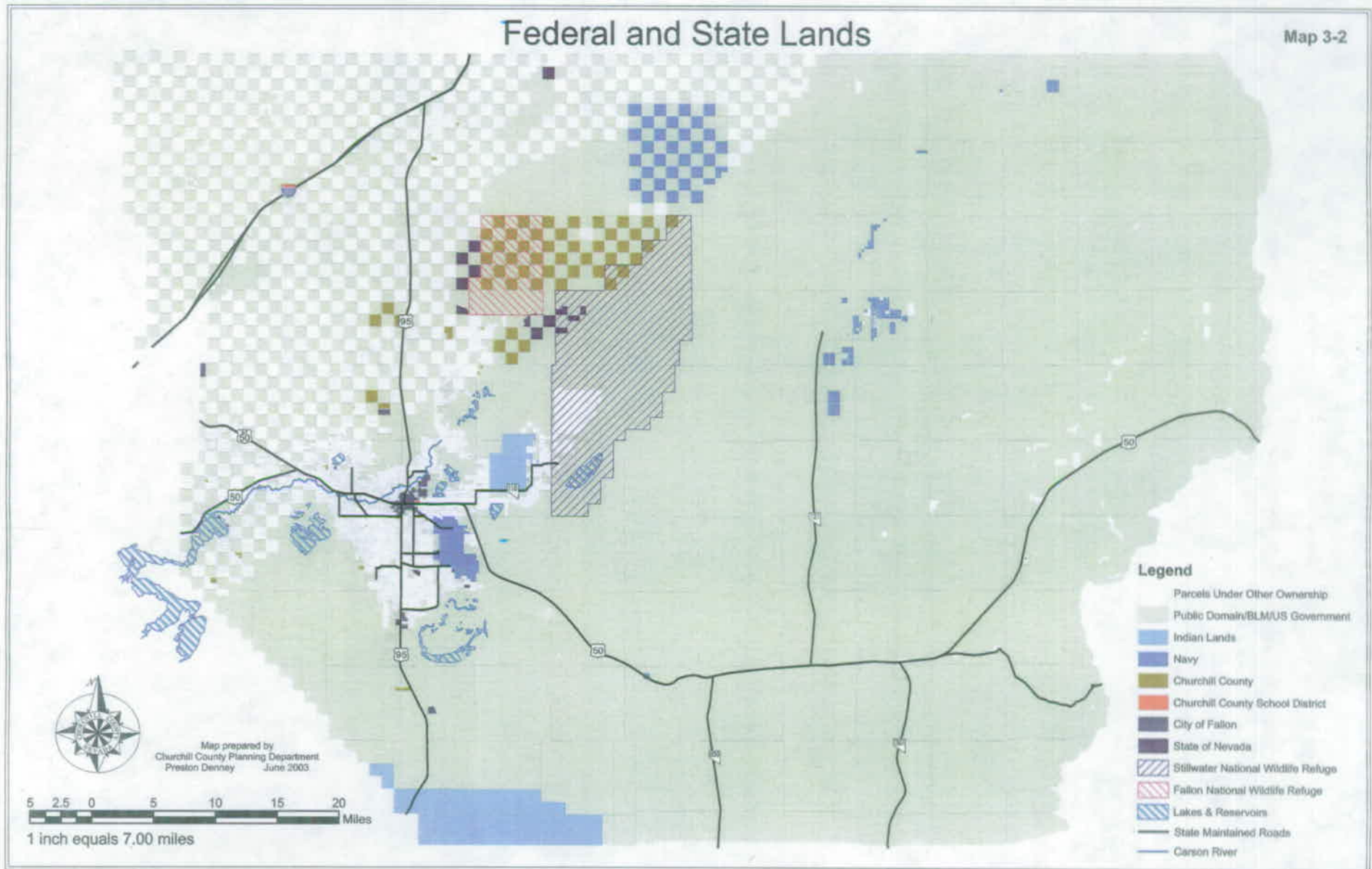
14,000 acres of wetland habitat, which is estimated to require 70,000 acre-feet of water delivered to the wetlands.

Stillwater NWR is an extremely important factor in Churchill County's goal of protecting land for wildlife and warrants full community support in the development of solutions. The problem of water supply and allocation go beyond the needs of Stillwater Marsh. This issue will be addressed in the Master Plan component-Public Services and Facilities, Water Supplies.



# Federal and State Lands

Map 3-2



#### OTHER WILDLIFE IN CHURCHILL COUNTY

##### GAME SPECIES:

Mule deer are found in the mountain ranges of Churchill County and in the agricultural areas along the Carson River. The major mountain ranges in Churchill County are the Stillwater, Clan Alpine and Desatoya Ranges. The population estimate for the Management Area 18 mule deer herd, which encompasses all of Churchill County and those portions of the Clan Alpine, New Pass and Desatoya Ranges that are in Lander County, is estimated at 1400 animals.

Pronghorn are scattered throughout the mountain ranges and valleys of Churchill County with the highest densities found along the southern and western slopes of the Stillwater Range and in southern Churchill County north of Gabbs. Although no hunting season is currently established for pronghorn in Churchill County, numbers of pronghorn have increased to a point where a proposal for a hunting season is anticipated. The population estimate for pronghorn within Churchill County is approximately 100 animals.

The Nevada Division of Wildlife has re-established bighorn sheep into many of the historic ranges in Churchill County. Sportsman's groups such as Nevada Bighorns Unlimited and the Fraternity of Desert Bighorn have played an integral part in the re-establishment of bighorn throughout much of their historic range in Nevada. Bighorn populations exist in the Stillwater, Clan Alpine, Desatoya and Sand Springs Ranges as well as on Slate Mountain and Fairview Peak. The 2001 population estimate for bighorn sheep in Churchill County was approximately 490 animals.

Sage grouse populations exist in the Stillwater, Clan Alpine, New Pass and Desatoya Ranges. Hunting seasons for sage grouse are currently closed. Populations within Churchill County have been stable to decreasing in the short-term but have generally mirrored population declines throughout the Western United States over the long-term. The Nevada Division of Wildlife entered into a sage grouse planning effort with all users of both public and private lands

in an attempt to reverse the decline of sage grouse population numbers. Chuckar partridge hunting is very popular in Churchill County. Chuckar are found throughout the mountain ranges of Churchill County. Chuckar population numbers are currently estimated at moderate to moderately high population levels. Valley quail populations are highest within the agricultural areas along the Carson River. Lower density populations exist in all the major mountain ranges of Churchill County. Mountain quail populations exist in the Desatoya and Clan Alpine Ranges of Churchill and Lander Counties. Nevada Division of Wildlife has re-established populations of mountain quail. Wild turkeys were introduced into Churchill County in the 1980's and again in 2001. Their habitat is primarily along the Carson River and hunting is entirely on private land, by permission only.

Several species of rabbits (cottontail, pygmy, and white-tailed jack rabbit) are estimated to be at moderate levels in Churchill County. Rabbit populations are found throughout the valleys and foothills of Churchill County.

##### NON-GAME SPECIES:

There are many non-game species of wildlife in Churchill County. Many of them are associated with habitat along the Carson River and the drains and ditches of the Newlands Irrigation Project. There are also species that use the agricultural fields after irrigation (for example, white-faced ibis).

Examples of species found in the Lahontan Valley are beaver, muskrat, badger, coyotes, owls, hawks, waterfowl, and many species of birds, reptiles, bats, insects, and fish.

#### HAZARDOUS WASTE

As growth and increased industrialization occur, Churchill County can anticipate that some of those industries will involve the processing, transporting and storing of hazardous waste materials. However, not all generators of hazardous waste are recent additions to the environmental problem. There are many examples of earlier

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contributors even if the practices have been abandoned such as:

- \* uncontrolled landfill,
- \* unlined pits and ponds (mining),
- \* leaking underground storage tanks,
- \* pesticide spraying,
- \* military waste,
- \* asbestos,
- \* mercury in the Carson River.

Hazardous waste is one category of waste. The characteristics of hazardous waste are that it is:

- \* flammable,
- \* corrosive,
- \* reactive,
- \* toxic.

The consequences of hazardous waste, which can occur, are groundwater contamination, surface water contamination, ecological impacts, air pollution, fire, and explosion.

Hazardous waste that gets into the water systems, especially groundwater aquifers providing well water, can be deadly. With some compounds (for example: dioxin) very small quantities can cause death. Once contamination is determined, there are procedures that can effectively treat and correct the situation. However, they tend to be costly and have limited success.

Control of potential new industries moving into Churchill County is essential to mitigate against potential dangers. All generators of hazardous waste are required by State of Nevada Statute (444.842 - 444.960) to apply for a hazardous waste permit; currently there are 14 facilities holding permits in Churchill County. In 2000 an ordinance was adopted within County codes requiring any use in an industrial zone to be allowed only by Special Use Permit. This allows the County to review each proposal in depth and impose conditions over and above those stated in the code to ensure the protection of the community.

The transfer into and storage within the county of hazardous materials, as opposed to hazardous waste, are controlled by state and federal regulations. The county has adopted its own ordinance defining the extent of county control desired. The Comprehensive Environmental Response, Compensation and Liabilities Act (CERCLA, also known as Superfund) is a federal program available to respond to environmental releases from both current and past spills. CERCLA is implemented through EPA with the Department of Defense being responsible for military facilities. There are procedures and standards defined for responding to hazardous waste releases and determination is made as to whom is responsible for funding the clean up.

The Environmental Protection Agency has identified a fifty-mile stretch of the Carson River, extending into Churchill County, for evaluation under CERCLA. In 1992 a study evaluated any problems and determined the responsible parties for taking corrective action. No sites in Churchill County were identified.

Yucca Mountain, Nevada has been identified as the repository for the nation's high-level radioactive waste. Due to the distance of the Yucca Mountain site from Churchill County, it is highly unlikely that the storage of the waste will have any damaging effect on the county's environment. The impacts of the Yucca Mountain selection will result from the transportation of nuclear waste through Churchill County on its way to the repository.

The DOE is developing multi-barrier waste packaging canisters, which will minimize the number of shipments necessary, and will allow for maximum shielding against radiation release and maximum ability to withstand severe accident without harmful release of radioactive contents. DOE data contends that the exposure to high-level waste being transported in a vehicle moving at 24 mph for people residing within 100 feet of the route would result in a dose per year of two to eight millirem of radiation. This equates to approximately 2% of the radiation they receive from the natural environment.

Churchill County's continuing active review and participation with the Yucca Mountain studies and the potential impact of the Yucca

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Mountain siting on Churchill County primarily focus on the issues resultant from transportation of the nuclear waste. Churchill County will continue to require emphasis by the DOE on the mitigation of any negative effects through the establishment of plans for routing alternatives and preparation and provision of disaster supports.

Considerations of transportation of hazardous materials are further addressed in the Transportation and Public Services and Facilities Sections of this Master Plan Update.

#### AIR QUALITY

The Federal Clean Air Act, as amended in 1970, established standards of air quality and the authority of the Environmental Protection Agency (EPA) for enforcement of those standards. The State of Nevada's authority to implement the air quality program is contained in Nevada Revised Statutes (NRS) 445B.100-445B.845. NRS 445B.100, states the broad powers of the program:

*"It is the public policy of the State of Nevada to achieve and maintain levels of air quality which will protect human health and safety, prevent injury to plant and animal life, prevent damage to property, and preserve visibility and scenic, aesthetic and historic values of the State."*

The State standards are equal to or are more stringent than the National standards. See TABLE 3-1 for the listing of the State standards. The State of Nevada is mandated to identify those areas which are not meeting the standards. Ambient air quality data gathered by the monitoring networks of the State and Local governments are used to determine areas within the State not attaining the standards. Churchill County is in compliance.

Air quality programs should provide information on pollutant concentrations. This might include the extent of global distribution of atmospheric pollutants. All companies constructing new sources or modifying existing sources of air contaminants must complete and submit an application for an air quality permit from the Nevada Division of Environmental Protection, Bureau of Air Quality. In Churchill County,

there are 20 companies with a total of 29 permits.

#### Particulate Pollutants

Particulate pollutants generally consist of a mixture of particles of dust, ash, soot, and metals. Microscopic solid or liquid particles are measured by the gross amount of particulate matter less than ten microns ( $PM_{10}$ ). These particles are less than ten microns (10\millionths of a meter) in size. The very small size and weight of these particles allow them to remain airborne for weeks. When inhaled, they easily travel deep into the lungs and may be trapped in a person's lungs for years, leaking into nearby blood vessels, causing coughing, lung changes, chronic lung diseases and cancer. When particulate concentration is high, existing respiratory conditions can be aggravated causing coughing and chest discomfort.

Rapid growth in construction and population and related effects, annual rainfall amount, irrigation, variation in wind speed, etc. are all factors with an impact on  $PM_{10}$  concentrations. The threat of increased  $PM_{10}$  exists with abandonment of irrigated ground. Normal spring and fall agricultural fieldwork increases particulate levels as there is more exposed bare ground and soil disturbance. In general, residential areas have good ground cover. Landscaping of property and ground cover on roadsides make significant contribution towards minimizing particulate concentration. This can be accomplished through increased landscaping requirements in the county code.

Under an earlier standards system, particulate matter was measured as Total Suspended Particulates (TSP). Between 1971 and 1987, the State's monitoring system of TSP included Churchill County in one of three air quality control regions, AQCR - 147. A TSP sampler was located in Fallon on the roof of the Churchill County Telephone Company office. The sampling of TSP (TABLES 3-2 and 3-3 and CHARTS 3-1 through 3-3) indicate the general overall good air quality in Churchill County. In May, 1993 the State of Nevada Division of Environmental Protection installed a  $PM_{10}$  monitoring station in Fallon. Data from this station indicate that particulate counts are within the standards set for any 24-hour period. Monitoring was discontinued in 1998 because the Environmental Protection Agency indicated it was

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no longer necessary.

Implementation of programs to reduce suspended particulates is an important step in providing clean air and a healthy environment for the entire community. Reasonable precautions should be taken to prevent the unnecessary or excessive generation of dust from construction, graded land, operation of equipment, agricultural activities, dirt roads, transportation of dirt-type materials etc. Establishment of reasonable landscaping requirements, regulations and enforcement policies is necessary to provide fair dust control measures.

Precautions can include:

- sprinkling of construction sites,
- compacting, re-vegetation and landscaping (see the plant palette in the Appendix for appropriate plants),
- chemical palliative or asphalt sealing - there are many approved and environmentally safe products available,
- windscreens to break the wind to agricultural land,
- reduced speed on dirt roads,
- limitations of burning, tilling, and earth moving during high risk periods such as in high wind or temperature inversion conditions,
- use of cargo covers on trucks hauling sand, dirt, etc.,
- phased grading and tilling operations.

Some particulates are produced from surrounding playas (salt flats) and are a natural occurring condition. Landscaping does reduce soil erosion. The establishment and survival of landscaping is largely dependent on the valley irrigation system and the city water system.

#### Ozone

Ozone is a toxic gas. Near ground level it is a harmful pollutant produced from natural processes but primarily from man-made compounds (nitrogen oxides and hydrocarbons) reacting to sunlight. Therefore, sunny days induce increased levels of ozone.

Human exposure to ozone causes degrees of problems, as

levels increase, from impaired physical performance to irritation of the nose and throat to changes in the pulmonary function. In addition, ozone is known to decrease yield in some crops.

Activities that cause ozone production are fossil fuel combustion, chemical processing, fuel storage and handling, and solvent usage such as painting and degreasing. Consequently, heavy concentrations of ozone are found near and downwind of large urban centers.

Over the past ten years, significant strides have been taken in controlling emissions of hydrocarbons with positive results. It is not anticipated that Churchill County will face problems from ozone. As the county, Fallon, and NAS grow, and increased traffic flows through the county, it will be essential to ensure that ozone levels within the county remain low. Close involvement with the State and its program should be maintained to retain a measuring site should there be indications of significant increases in the level of ozone in the county. In October, 1999, Nevada Division of Environmental Protection, Bureau of Air Quality installed an ozone monitor at West End School to monitor the transport of ozone from Reno and Fernley to Churchill County.

#### Oxides of Nitrogen

Nitrogen oxides are caused by fuel combustion. During the past five years of monitoring no violations in the State were recorded; measurements are significantly better than the standards set.

#### Sulfur Oxides

Sulfur oxides result from the burning of fossil fuels. Domestic burning of fossil fuels is a contributor but highly concentrated sources are metal smelting, oil refining, and large coal or oil-fired power plants. Fuels of lower sulfur levels can be used but they are less efficient and more costly in the manufacturing process. It is easy to recognize when a sulfur oxide problem exists, since the atmosphere develops smog. Sulfur dioxide irritates the respiratory system and continual exposure can produce irreversible damage to the respiratory system.

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State standards have not been violated within Churchill County. The County can ensure it maintains an excellent level of sulfur dioxide-free air in the face of growth by careful evaluation, limitation and control of potential new industry to the county.

#### Carbon Monoxide

Carbon monoxide is colorless and odorless. It results from combustion of hydrocarbon fuels in motor vehicles, and wood and coal-burning stoves. Carbon monoxide concentrations are affected by meteorologic conditions, primarily during inversion periods and cold weather. Geographically, valleys are prime areas for this to occur.

Carbon monoxide combines with the hemoglobin of the blood and reduces its oxygen carrying capability. Those most affected are people with a cardiopulmonary disease or smokers.

Despite the increases in vehicle miles traveled and the population growth, the State has had violations only in the urban areas of Clark and Washoe Counties. These benefits come largely as a result of the reduction in tailpipe emission standards. However, although many of the older, more polluting vehicles are no longer being used, it is anticipated that there will be an increase in carbon monoxide emissions as the population increases and more vehicles are on the road.

Churchill County will continue to benefit from the statewide controls of motor vehicle emissions to balance the anticipated increases in traffic. Programs to reduce vehicular traffic miles must also be evaluated:

- \* encouragement of car-pooling by employers,
- \* review of potential public transportation, especially between Fallon and NAS,
- \* and land use planning to minimize driving between residential areas and areas of services.

Another generator of carbon monoxide that the County can address is wood-burning stoves. These are widely used sources of home heating. The models of stoves on the market today are available

with catalytic systems. These should be required for all new construction or installation. This can be controlled through requiring that the wood stove dealers file an affidavit with the County Building Department for every sale made. This should be supported by regulations that make it illegal to install an uncertified stove. For existing stoves the public should be encouraged to retrofit, when possible, with a catalytic system.



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**TABLE 3-1 NEVADA AMBIENT AIR QUALITY STANDARDS STATE STANDARDS 2001(NRS 445.843)**

	$\mu\text{g}/\text{m}^3$	Ppm
*Nitrogen Dioxide Annual Arithmetic Mean	100	0.05
Particulate Matter as PM <sub>10</sub> Annual Arithmetic Mean (was 75 TSP) 24 hour (was 150 TSP)	50 150	- -
*Sulfur Dioxide Annual Arithmetic Mean 24 hour 3 hour	80 365 1,300	0.03 0.14 0.5
*Ozone 1 hour	235	0.12
*Carbon Monoxide 8 hour 1 hour	10,000 40,000	9.0 35
*Lead Quarterly Arithmetic Mean	1.5	-
*Hydrogen Sulfide 1 hour	112	0.08
Visibility To maintain the prevailing visibility of greater than 30 miles when humidity is less than 70%		

**TABLE 3-2 One-Hour Ozone Concentrations**

SPMS)

YEAR	1 <sup>st</sup> High	2 <sup>nd</sup> High	Exceedence Hours	Exceedence Days
1999*	0.07	0.06	0	0
2000	0.08	0.07	0	0

\*Data for October-December

**TABLE 3-3 Eight-Hour Ozone Concentrations**

SPMS)

YEAR	4 <sup>th</sup> High	Exceedence Year
1999*	0.05	No
2000	0.07	No

\*Data for October-December

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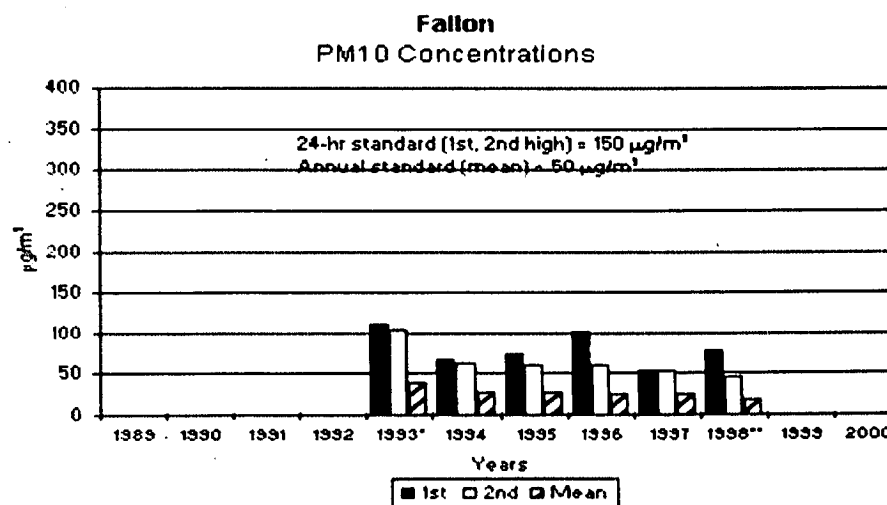
Chart 3-1

PM10 Concentrations					
ID #32-001-0002 (SLAMS)					
YEARS	# of Samples	1st High	2nd High	Mean (Arith.)	24-hr. Exceedances
1989	no data	---	---	---	---
1990	no data	---	---	---	---
1991	no data	---	---	---	---
1992	no data	---	---	---	---
1993*	35	111	103	40	0
1994	45	66	62	27	0
1995	47	74	60	28	0
1996	54	102	61	25	0
1997	53	53	53	26	0
1998**	25	79	47	19	0
1999	no data	---	---	---	---
2000	no data	---	---	---	---

\* New site: incomplete year of operation

\*\* Discontinued site: data for January - June

Chart 3-2



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#### SOIL

The Soil Survey of Fallon-Fernley Area, Nevada issued in 1975, and the Churchill County Soil Survey issued in 2000 were completed by the United States Department of Agriculture Natural Resources Conservation Service in cooperation with the University of Nevada Agricultural Experiment Station and the United States Department of Interior. These documents provide in detail all the soil types existing in Churchill County. Included in these soil surveys are general soils maps showing the soil associations of the predominant soils. The maps give a general guide to the area's soils and a comparison of soil types in different parts of the region. The soil surveys are useful for planning community developments, but not suited to the management of individual farms or to the selection of an exact site location of structures or roads since soil characteristics differ with location.

Churchill County is located in the northwestern part of the Great Basin. Most irrigated areas are below 4,000 feet in altitude. The lowest parts are the Carson Sink, a playa; Carson Lake, a shallow lake; and the Stillwater Lakes, a chain of small lakes, and marshes.

The lowlands above the flood plain of the Carson River consist of irregularly shaped sand hills, sand plains, and clay flats. South and west of Carson Sink are three low volcanic hills: Rattlesnake Hill, Soda Lake Uplift, and Upsal Hogback.

The lowlands areas were inundated periodically by fluctuating deepwater lakes during the Late Pleistocene Epoch (approximately 10,000 to 70,000 years ago). Valley fill consists of great thicknesses of lake-laid materials interwedged with river alluvium and eolian material deposited during interpluvial periods. Below the high water level of the Pleistocene lakes, tufa is present. Tufa is calcium carbonate precipitated from shallow waters along shorelines of Pleistocene Lake Lahontan. There are three basic types of tufa:

- \* Lithoid tufa is compact and stony in structure, light yellowish gray in color, weathering into forms of extreme ruggedness.
- \* Thinolite tufa is found in the lowest parts of the area, it occurs as interlaced crystals of calcium carbonate.

- \* Dendritic tufa is often mushroom-shaped.

Alluvium deposited by the Carson River, which has its source in the Sierra Nevada Mountains, washed from soils derived from mixed rock sources. These soils have a strong granitic influence. Local alluvium washed from soils on uplands bordering the area is derived mostly from volcanic rocks.

Exposed volcanic rock on the uplands include olivine basalt, rhyolite, dacite, and andesite. Volcanic ash and pumice are also present. Diatomaceous material and limestone occur in small areas in the west and northwest parts of the County.

The aim of good land use is to produce the greatest amount of desired crops while protecting and improving the soil. To achieve this, the land must be protected according to its needs and used within its capabilities. This can be done by using plants that are well suited to the soil, applying management practices that protect the soil, and maintaining good physical condition of the soil.

In order to sustain satisfactory crop yields in the area careful attention to soil management practices is required:

- a. using a conservation cropping system,
- b. managing crop residue,
- c. controlling erosion,
- d. adding plant nutrients,
- e. controlling insects and weeds,
- f. managing irrigation water and drainage,
- g. managing pasture and hay land,
- h. managing saline-alkali affected soils.

The production of cultivated crops in the area is not feasible without irrigation. In addition, the water must be of adequate quantity and high quality.

The detailed description of the suitability of soils for field crops and their groupings into "capability classes, subclasses, and units" is included in the Soil Surveys. The capability classes represent the

### 3. CONSERVATION

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broadest grouping indicating the limitations for practical use. Class I soils, those with few or no limitations that restrict their use, do not exist in the area. There are several sub-classes of Class II, those with moderate limitations. Within these sub-classes are Appian, Bango, Bunejug, Dia, East Fork, Fallon, Juva, Sagouspe, Stillwater, Swingler, and the Swope Series. Soil limitations and recommended management practices and treatments are included in the Soil Surveys.

89406.

A major portion of the area is rangeland or playas that completely surrounds the irrigated portion of the valley. The native vegetation is sparse due to accumulation of salts in the soil and low precipitation. In some areas the soils have a coarse-textured surface layer and in these areas the main hazard is soil blowing. The Fallon-Fernley Soil Survey and the Churchill County Soil Survey provide detailed information on individual range sites. This information includes rangeland ecological site descriptions, information concerning physiographic features; and factors influencing soil, vegetation, and climatic conditions.

The kinds of wildlife species that live in a particular area are determined by suitability of the habitat. This is related to the soils, plant cover and topography. The suitability of an irrigated soil for wildlife habitat differs from that of the soil if it is not irrigated.

Other soil properties require evaluation as they apply to engineering to determine building foundation and waste water percolation characteristics. Important soil properties to be considered are permeability, strength, compaction, drainage, shrink-swell potential, grain size, plasticity, and soil reaction. In varying degrees and combinations these affect construction and maintenance of roads, building foundations, and irrigation and sewage disposal systems. The Soil Surveys provide general information and guidelines regarding estimated soil properties significant to engineering. This information, however, does not eliminate the need for on-site investigations.

Soil Survey information for Churchill County is available through the United States Department of Agriculture, Natural Resources Conservation Service, 111 Sheckler Road, Fallon, NV

### 3. CONSERVATION

2003

#### OBJECTIVES:

1. Examine potential problems of air, soil, and water pollution and adopt controls.
2. Address drainage to ensure protection of public and private property from flood hazards.
3. Examine the need for a plan for the protection, enhancement, and development of the Carson River.
4. Develop water right transfer policies for lands in the path of urban development to assure continuation of a viable agriculture industry; to provide for municipal and industrial needs; and to provide for other economic and aesthetic needs.
5. Investigate ways of minimizing negative impacts of abandoned irrigated lands.
6. Monitor the Yucca Mountain studies and assess any potential impacts on Churchill County.

#### REFERENCES:

1. Flood Insurance Study, Churchill County, November 1985; Federal Emergency Management Agency.
2. State of Nevada, Department of Wildlife.
3. U.S. Department of the Interior, Bureau of Land Management.
4. Water Resources-Reconnaissance Series, Report 59; U.S. Department of the Interior, Geological Survey.
5. State of Nevada, Division of Environmental Protection.
6. Washoe County, District Health Department.
7. Soil Survey of Fallon-Fernley Area, Nevada, by the United State Department of Agriculture Soil Conservation Service in cooperation with the University of Nevada Agricultural Experiment Station and the United States Department of the Interior Bureau of Indian Affairs.

## 4. SEISMIC

### GOAL:

1. Minimize potential for loss of life and property or serious injury.

Churchill County is located in "Earthquake Country" in the highest zone level of seismic hazard - Zone 4. It lies within one of the most seismically active regions in the United States. Nevada ranks among the top three states, along with California and Alaska, subject to the most earthquakes over the past 150 years. The Map of Nevada Earthquakes at <http://seismo.unr.edu/htdocs/nv-eq.html> shows the seismic activity recorded in Nevada from 1852 through 1999, which indicates that Churchill County falls within an area of significant activity.

Magnitude 3 and 4 earthquakes are commonly felt, but rarely cause damage. Minor to moderate damage can accompany a magnitude 5 or 6 event, and major damage commonly occurs from earthquakes of magnitude 7 and greater.

Among recent significant earthquakes, four occurred in Churchill County between July 1954 and December 1954. These were of magnitudes ranging from 6.6 to 7.2. Although earthquakes do not occur at regular intervals, the average frequency of those of magnitude 6 or greater in Nevada has been about one in ten-years, magnitude 7 or greater has been once every 27 years.

Geologically young faults, the source of earthquakes, network throughout Churchill County. The faults cut Lahontan sediments in the Carson Sink area and the earthquake that occurred there in 1954 shows that faulting continues to the present time. The fault displacements reached ground level. Most of the 1954 faulting occurred at the immediate foot of the Stillwater Range. Geodetic measurements taken show that the Stillwater Range has remained almost stationary but Dixie Valley may have dropped 7 feet.

Earthquake deaths and injuries are seldom caused directly by movement of the ground. Most frequently, injuries are caused by collapse of buildings, flying glass, furniture movement, and fires from broken chimneys, broken gas lines, and downed electric lines.

Preparing for an earthquake is important in avoiding disaster. The Nevada Bureau of Mines and Geology has published a pamphlet, which gives simple, easy to follow guidelines in:

- \* What to do before an earthquake, to prepare,
- \* What to do during an earthquake,
- \* What to do after an earthquake.

This material should be made available to everyone in the county, the public officers, residents and businesses of the county and should be included as part of the school emergency preparation program, much like fire drills.

Churchill County requires compliance with the current edition of the Uniform Building Code (UBC) for all residential, commercial, and industrial buildings. This code spells out construction standards specific to each seismic hazard zone. Simply complying with the UBC does not assure adequate seismic design but it does spell out reasonably prudent standards. Also essential is careful attention by well-qualified, experienced practitioners having knowledge of seismic design and construction. The typical kinds of earthquake damage are controllable. The intent of current earthquake design theory is to provide, as a minimum, for the structure to remain standing long enough to allow occupants to vacate the building safely. Critical buildings (e.g. fire stations, power plants, hospitals) need to be designed to a higher degree of survivability. For careful attention to the review and plan check during the building permit process and inspection during construction, Churchill County should ensure that the staff or consultants are adequately qualified to perform the plan checking correctly.

Potentially more danger comes from those buildings not built to recent UBC standards. Major revisions were made in 1973 to the UBC Earthquake Regulations, Chapter 23, following the Alaska earthquake. The 1988 edition completely updated and revised Chapter 23 for seismic design. Again in 1997 additional language was added to the UBC addressing standards in the Seismic 3 and 4 zones.

## 4. SEISMIC

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Unreinforced masonry buildings (URMs) have historically exhibited little resistance to earthquakes. Owners have difficulty in justifying investment in the building's structural future unless there is also an increase in its economic viability. In those cases where general renovation is taking place, Churchill County should review the building's seismic status and require it be strengthened to meet current code standards. During the renovation of the historic Courthouse the building was retrofitted to meet current earthquake standards.

Potentially hazardous public use buildings should be identified and inventoried. A program to mitigate against earthquake damage from those buildings should be developed. Schools and hospitals should be brought up to code as a first priority.

## 4. SEISMIC

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### OBJECTIVES:

1. Maintain and enforce building codes.
2. Encourage public awareness programs regarding need for seismic building codes and for programs aimed at minimizing effect of seismic disasters.

### REFERENCES:

1. Earthquakes in Nevada and How To Survive Them; Nevada Bureau of Mines and Geology, UNR Seismological Laboratory, Nevada Division of Emergency Management.
2. Seismic Safety and the Architect's Role in Design, Fall 1989; The Examiner, California State Board of Architectural Examiners.
3. Geology and Mineral Deposits of Churchill County, NV; Ronald Willder and Robert C. Speed, Authors; Nevada Bureau of Mines and Geology Bulletin 83, 1974.



## 5. HISTORICAL DATA AND PRESERVATION

- GOAL:**
1. Preserve and protect historical and pre-historic aspects of the County.
  2. Preserve and protect currently developing elements of custom and culture.

Realization of the importance of Nevada's cultural resources is evidenced through the passage of A.C.R. 36 by the 1987 Nevada State Legislature. This Concurrent Resolution established one of only six interim study committees, which was charged with the responsibility to study the preservation and promotion of Nevada's cultural resources.

The 1989 Session of the Nevada State Legislature took action on numerous proposals borne of the interim study committee. Inclusion of a Cultural Resources section in this document is mandated through the passage and enactment of S.B. 15.

N.R.S. 278.160, 1 was amended by adding thereto a section about cultural resources which reads as follows:

*278.160, 1(d) Historical properties preservation plan. An inventory of significant historical, archaeological and architectural properties, a statement of methods to encourage the preservation of those properties and provisions for surveys to identify such properties (before development of them).*

Existing laws and regulations do not merely encourage, but clearly mandate the preservation of certain cultural resources and also contain provisions for the survey of cultural resources.

Following, hereafter, is a list of laws and regulations to be consulted relative to the surveying and preservation of Nevada's cultural resources.

Federal laws and policy directives applicable to cultural resources management include the:

1. Antiquities Act of 1906 (P.L. 59-209): provides for the protection of cultural resources on Federal lands through criminal sanctions against excavation, injury, or destruction of cultural resources without permission.
2. National Historic Preservation Act of 1966 (P.L. 89-665 as amended by P.L. 94-422, P.L. 94-458, and P.L. 96-515): requires Federal Agencies to consider the effect of their actions on cultural resources and affords the ACHP an opportunity to comment on actions prior to them being authorized.
3. National Environmental Policy Act of 1969 (P.L. 91-190): directs Federal Agencies to consider cultural resources in fostering environmental quality and preservation.
4. Historic and Archaeological Data Preservation Act of 1974 (P.L. 94-291): directs Federal Agencies to undertake recovery, protection, and preservation measures to preserve data that would be lost as a result of authorizing an action.
5. Federal Land Policy & Management Act of 1976 (P.L. 94-579): directs the BLM to inventory cultural resources (among others) and to protect scientific, historic, and archaeological resource values within the framework of multiple use management.
6. American Indian Religious Freedom Act of 1978 (P.L. 95-341): requires Federal Agencies to consider the effect of their actions on Native American traditional beliefs prior to actions being authorized.
7. Archeological Resources Protection Act of 1979 (P.L. 96-96): requires a permit for any excavation or removal of cultural resources more than 100 years old on public lands and provides civil and criminal penalties for violation of permit requirements.
8. Executive Order 11593, May 31, 1971: directs Federal Agencies to locate and inventory all cultural resources under their jurisdiction and to ensure that actions do not inadvertently affect significant cultural resources. Also directs agencies to consider the effects of actions on non-Federal lands.
9. BLM Manuals: 8100 - Cultural Resources Management, 8111 - Cultural Resources Inventory and Evaluation (Upland), 8130 - Cultural Resources Planning, 8141 - Physical and

## 5. HISTORICAL DATA AND PRESERVATION

- Administrative Protection Measures, 8143 - Procedures for the Avoidance and/or Mitigation of Effects on Cultural Resources, and 8151 - Cultural Resource Use Permits.
10. Regulations: 36 CFM 296, 800, 60, 63, 68; 43 CFR 3, 7, 3809, 3902, 3150, 3160.
  11. Nevada BLM Manual Supplement 8143 - Avoidance and/or Mitigation on Effects on Cultural Resources.
  12. Cultural Resources Memorandum of Understanding - Informal Consultation Guidelines for Routine NO EFFECT Actions. Signed by the BLM, Nevada and the Nevada State Historic Preservation Officer in May 1985.
  13. N.R.S. Chapters 233A, 381, 383, 384, 451, and 642.

In addition to the above delineated laws, regulations and subsequent manuals, it is recommended that persons directly involved with the planning process and any development become thoroughly familiar with the information contained in said laws, regulations, and subsequent manuals.

For assistance, those agencies directly involved in the protection, preservation, and recordation of Nevada's Cultural Resources should be contacted - Churchill County Museum, BLM, Division of Historic Preservation and Archeology, The Nevada State Museum, Department of Anthropology, and other Federal Agencies such as the U.S. Forest Services, the Bureau of Reclamation, the Bureau of Indian Affairs, and the Fallon Paiute Shoshone Tribe.

Following hereafter are sections covering Archeological Resources and Historic Resources.

### ARCHEOLOGICAL RESOURCES, CHURCHILL COUNTY

As of January 19, 1994 there were 1,961 archeological sites recorded in Churchill County. Because of the vast number of recorded sites, they are not individually listed herein. Updating the database would necessitate constant supplemental documentation being issued.

To ensure that archeological sites are not to be affected, contact the Nevada State Museum, Department of Anthropology, Capitol Complex, Carson City, Nevada 89710, (775) 687-4810.

Churchill County has approximately 33,000 acres of trust lands, lands held by Churchill County for non-payment of taxes. These lands may be used to trade with Federal and other governmental agencies to consolidate choice parcels for historical preservation and other public and private use.

### HISTORIC RESOURCES, CHURCHILL COUNTY

This section contains three subsections--National Register of Historic Places located within Churchill County, Nevada State Historic Marker sites located within Churchill County, and Specific Historic Sites located within Churchill County.

Churchill County Buildings/Properties Listed on the State Register and the National Register of Historic Places as of 5/01:

Building/Property	State	National
	Register:	Register:
Carson River Diversion Dam		1981
Churchill County Courthouse	1992	1992
Cold Springs (Rock Creek Station)		1972
Cold Springs Pony Express Station	1981	1978
Ft. Churchill-Sand Springs Toll Road		1997
Grimes Point	1981	1972
Harmon School	1988	1989
Humboldt Cave		1976
Lahontan Dam and Power Station		1981
Lovelock Cave		1984
Oats Park Grammar School		1990
Overland Hotel	1999	
Sand Springs Pony Express Station	1981	1980
Stillwater Marsh		1975
R.L. Douglass House/Cottage Hospital	2001	2001
Hazen General Store	2002	2002

## 5. HISTORICAL DATA AND PRESERVATION

Old County Jail Building

2002

2002

Note: Because of future nominations, amendments to existing listing, and declarations of eligibility to the National Register of Historic Places, to remain current with accurate information contact the Division of Historic Preservation and Archeology, Capitol Complex, Carson City, Nevada 89710, (702) 687-5138.

### STATE HISTORIC MARKERS, CHURCHILL COUNTY

This program is under the jurisdiction of the State of Nevada Historic Preservation Office.

Marker No. 10. Sand Mountain  
Marker No. 19. Ragtown  
Marker No. 26. Forty-Mile Desert  
Marker No. 27. Grimes Point  
Marker No. 83. Rock Creek (Cold Springs Station)  
Marker No. 110. Wagon Jack Shelter  
Marker No. 111. Edwards Creek Valley  
Marker No. 135. New Pass Station  
Marker No. 147. A Home of Early Man  
Marker No. 161. Churchill County Courthouse  
Marker No. 178. Hazen  
Marker No. 201. Wonder  
Marker No. 202. Fairview  
Marker No. 215. Lahontan Dam  
Marker No. 216. Stillwater

A publication containing the marker text and site location of each State Historic Marker is available through the State of Nevada Historic Preservation Office, Capitol Complex, Carson City, Nevada 89710, (702) 687-6360.

The historic marker program currently is unfunded. Contact the State of Nevada Historic Preservation Office, Capitol Complex, Carson City, Nevada 89710, (702) 687-6360 for information.

### SPECIFIC HISTORIC SITES, CHURCHILL COUNTY SEE APPENDIX A OF THE CHURCHILL COUNTY 1990 MASTERPLAN UPDATE #1

### CUSTOM AND CULTURE, CHURCHILL COUNTY

Churchill County actively supports the preservation and interpretation of its many and varied pre-historic and historic elements:

- a. Pre-historic resources,
- b. Socio-cultural diversity,
- c. Economic impacts,
- d. Visual/architectural resources.

These elements are recognized for their importance in forming the foundation of the community. There is a wealth and diversity of customs and cultures which have developed from the past and continue to evolve with recent augmentations. As a whole these customs and cultures provide the unique heritage of Churchill County.

Some components are well documented, presented and protected and undergo programs of continuing maintenance. Others, however, require attention to ensure they are recorded before their contribution is lost. An identification of all the elements, the appropriate support and action required is needed. Since support of all the identified elements may be beyond the immediate capability of Churchill County, a prioritization reflecting the community's perception of their importance should be prepared. The Churchill County Museum provides an excellent base for this effort and should be afforded the necessary resources to implement the effort.

#### a. Pre-historic resources

Protection for identified and potential archeological sites and resources is provided through federal and state laws, statutes and policy directives. Churchill County has a wealth of identified sites, which furnish indicators of early life in the

## 5. HISTORICAL DATA AND PRESERVATION

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region. State Historic markers, tours, education programs and research ensure information on those of greatest significance is available to all.

Concern for the protection against vandalism of those sites not fully documented and explored has necessitated controlled release of site location data and strict legal recourse against theft. These controls have helped stem the loss.

It is important that the public, especially students, have access to these pre-historic resources. Churchill County Museum, if provided with adequate facilities for storage cataloging and display, is capable of fulfilling that responsibility in conjunction with BLM, the Nevada State Museum and the BIA.

### b. Socio-cultural diversity

Many racial groups, nationalities and other American regional cultures have been assimilated into Churchill County's community:

- The Native American,

- Pioneers,

- Immigrants of European heritage.

The early pioneers, settlers, farmers, ranchers, and miners brought with them customs from other regions of the United States of America.

Today, this blending continues with:

- The addition of eastern and oriental nationalities.

- Those employed at the Naval Air Station, if only temporarily, provide their unique ingredient to the local culture.

- A significant number of people who worked in Churchill County and loved and admired the quality of life return as retirees.

As the county grows, all these elements are in danger of becoming absorbed in the melting pot and the individuality of

each lost. It is important to capture and record each fragment of this fabric. We are fortunate to have the technologies with video recording and image processing to attempt this task.

We recognize the enormous value of the photographic records of the past. There is still time to capture and document the socio-cultural elements through programs encouraging representatives of the various groups to present, demonstrate and record their histories, folklore, customs, work, handicrafts, foods, music, and storytelling. Additionally, donations of artifacts to the museum provide a valuable inventory in recording the customs and cultural background of the community. Both these approaches are applicable to the historical past, the recent past and the present. It is particularly important to include recording of the present cultural contributions to the community. Examples of these are:

- Junior Rodeo,
- Indian Stampede,
- Blue Grass Festival,
- Churchill Arts Council,
- Portuguese Festival, etc.

To accomplish these programs, responsibility and the necessary resources of equipment, personnel and facilities must be allocated. The appropriate agency to direct such an effort is the Churchill County Museum. The Museum has the technical expertise and the organizational capability.

### c. Economic impacts

The earliest economic developments of mining came to the Lahontan Valley in the mid- nineteenth century. Nevada's and California's mining boom and bust periods were unstable elements and only an occasional small precious metal strike was located in the Valley.

## 5. HISTORICAL DATA AND PRESERVATION

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While the direct impact of mining was minimal, ranching and farming were needed to support the mining enterprises with food and hay. While slow in expansion, the agricultural economy thrived and developed. Later in the nineteenth century, land was developed by irrigation to produce more. The ranchers and farmers established a settled community building schools, churches and local government.

Historians have provided excellent documentation of the agricultural heritage of Churchill County. This heritage is evident and existing today in the hard-working, independent ideology of the community and in the attractiveness of the irrigated lands. The Hearts of Gold Cantaloupe Festival provides the community a joyous celebration of its agricultural heritage. Agriculture, in addition to being a very important economic factor to Churchill County's well being, is also an imperative substance of the County's cultural heritage.

The Naval Air Station Fallon provides the community with an exciting and valuable addition to the evolving culture. N.A.S Fallon is expanding and adding high caliber functions, which bring to Churchill County the need for individuals (service personnel and contractors) with technical skills. Churchill County's ability to develop the education and training necessary for the work force to provide or support these skills will afford an opportunity for enhancement of job opportunities. The base is also a social contributory member of the community. The annual Fallon Air Show demonstrates the pride and cooperation by the base in the community.

### d. Visual/architectural resources

All available opportunities must be explored to ensure the preservation of identified buildings of historical significance. Community pride is expressed in the commitment to an environment that is visually and architecturally pleasing and whose ambience is reflective of the image desired by the citizens. Churchill County and Fallon have no single major

architectural element to exploit but there are several buildings which demonstrate a particular period or style and are worthy of preservation.

The courthouse, listed on the National Register, has recently been renovated and opened in January 2001. This project ensures the building has the potential for long and useful service.

The ability of Churchill County to ensure an appreciation of and support for its cultural and customs heritage lies in the commitment of the residents.

## 5. HISTORICAL DATA AND PRESERVATION

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### OBJECTIVES:

1. Maintain and support the Churchill County Museum.
2. Enhance public appreciation of the county's heritage through educationally oriented public awareness programs.
3. Encourage public commitment to protect pre-historic and historic artifacts and sites.
4. Encourage utilization of grants for restoration and renovation of historic sites.
5. Create and adopt an historic preservation ordinance.
6. Develop a program for the identification and prioritization of the elements of custom and culture appropriate for preservation.
7. Develop cooperative actions with local Native American communities to expand appreciation and continuation of their customs and culture.

## 6. ECONOMIC DEVELOPMENT

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- GOALS:**
1. Adequate lands and services for industrial and commercial development in areas along the U.S. 50 corridor.
  2. Retention and expansion of local businesses and support efforts at diversification and value added products.
  3. Adequate water resources for commercial agricultural production and municipal and industrial development.
  4. Increase availability of training, education, and business assistance programs offered in Churchill County.
  5. Adequate services and facilities to support growth with emphasis on urbanizing areas of the unincorporated county.

Economic development is the process of creating wealth by mobilizing human, physical, natural, and capital resources to produce marketable goods and services.

At one time, economic development was principally the province of the private sector, including utilities, railroads, banks, and business organizations such as chambers of commerce. It was associated with distressed or under-developed areas of the country. In the past ten years, economic development has become a critical function of local government in every region of the country and in every phase of development.

There are trends emerging for communities to focus less on attracting business and to place more emphasis on supporting and retaining existing business, promoting entrepreneurial and small businesses, and building the service sector. Churchill County will likely have an opportunity to do both.

### ECONOMIC DIMENSIONS OF RURAL AMERICA

The economic dimensions of rural America have changed dramatically since the 40's and 50's. Through those decades and the decades earlier, agriculture dominated the social and economic status of a large portion of the rural population.

Living in rural America today is much different from life in the 1950's. Socio-economic conditions in rural America have generally improved over the past three to four decades; however, during the 1980's and the 90's, economic stress was prevalent in many rural economies.

Before the 1970's, the rural unemployment rate was lower than the urban rate and remained, for the most part, below the urban rate throughout recession and recovery. In many cases the rural unemployment rates rose more rapidly than the urban rate, and has remained above the urban rate.

The rural economy is restructuring its industrial base across the country. Service industries now employ more rural workers than goods-producing industries and most of the job growth in rural areas since the late 1960's has been in the service sector. The trend has accelerated since 1970. Of all new non-farm wage and salary jobs created in rural areas, eighty-three percent (83%) have been in the service sector. The Bureau of Labor Statistics has projected that ninety percent (90%) of the sixteen million new jobs expected in the United States between 1984 and 1995 will be in the service-producing sector. Business, personal, and medical services are expected to account for over half of the new jobs. The business services sector is expected to add the largest number of new jobs because of the increasing trend among firms toward contracting out some services, and because of the growth in demand for computer software and other technical business services. Many of the newly created service jobs are at wage levels equal to or above those being lost in the goods-producing sector. This leads to improvement in the income prospects for many workers.

Although some of those trends are evident in Churchill County, the area has attracted relatively large scale manufacturing facilities in recent years.

For rural areas specifically, industrial restructuring poses some problems. They are:

## 6. ECONOMIC DEVELOPMENT

1. Rural manufacturing employment is heavily concentrated in low-wage industries and, within these industries, in blue-collar occupations. Moving heavily to service-oriented jobs with rapid job losses in low-wage manufacturing is very likely to have a negative effect on areas of rural America.
2. Rural areas do not appear to be attracting a large share of high tech jobs among new service jobs.
3. In many rural areas, job-training opportunities to learn skills for new jobs are not available or not cost-effective.

The trends in most economic development sectors are favorable for Nevada. The heavily directed approach to diversified business/ industry, a low tax climate, and a good place to live for the most part put urban and some rural areas of the state in a favorable position to sustain and attract business/industry to the area.

### CHURCHILL COUNTY

Churchill County is certainly part of rural America and over these many years has been heavily dependent on an agrarian-related economy. The quality of life for most of the county's population has been very good when we relate quality of life to clean air, minimal traffic problems, available housing, a variety of recreational activities, the perception that it is not an over-populated area, and that there are new jobs available each month.

The following tables provide some pertinent data concerning employment and industry classifications. The State of Nevada Employment Security Department has provided all of the table data.

In 2001 annual averages of the total civilian labor force for Churchill County was 9030. Eight thousand two hundred and fifty (8,250) were employed, and there is an unemployment rate of 8.7 percent. During the second quarter of 2002 the unemployment rate fell to 6.1 percent. One notable difference is that wages and income

remain below state averages and unemployment remains above state rates as well.

**TABLE 6-1**

Labor Force Summary			
	2002	2001	1995
Labor Force	8,570	8,950	8,480
Employed	8,070	8,280	7,980
Unemployed	500	670	580
Unemployment Rate	6.4%	8.8%	6.9%
Statewide unempl.	5.5%	5.3%	5.4%

**TABLE 6-2**

### Churchill County Industrial Employment and Wage Data

Industry	Employment		Average Weekly Wage	
	2001	1995	Sep-Dec 200 Churchill	Statewide
Total Industries	7,340	6,850	\$572	\$611
Mining	10	30	873	1,224
Construction	550	460	691	782
Manufacturing	600	340	588	824
Trade, Trans., Comm., Pub. Util.	2,100	1,650	814	695
FIRE	200	210	459	871
Service	2,160	1,990	534	627
Government	1,720	2,170	731	771

\* Nevada Employment data is now published using the North American Industry Classification System (NAICS). NAICS replaces the Standard Industrial Classification (SIC). After December 2002, employment based on the previous SIC coding structure will no longer be available. Limited historical data series using the new NAICS industry data will be available. If you require these data, or if you have questions, please contact the Research & Analysis Bureau at 775-684-0450 or via e-mail at [detrlmi@nvdetr.org](mailto:detrlmi@nvdetr.org)



## 6. ECONOMIC DEVELOPMENT

**TABLE 6-3**

**Statewide and Churchill County  
Per Capita Income 1995 to 2001**

Year	Churchill	% of State	Statewide
2001	\$23,888*	80%	\$29,860
2000	23,615	80%	29,506
1999	22,740	79%	28,786
1998	22,458	80%	28,069
1997	20,966	78%	26,789
1996	20,571	79%	26,004
1995	19,267	77%	24,897

\*Estimate

### THE INDUSTRIAL PICTURE

Industry within the Churchill County area can be classified into four main sectors: mining, agriculture, geothermal, and other. Allied with and related to these industries are various support/service enterprises, transportation services, natural resources, and a labor force.

Most of the industries that have established in Churchill County have done so because of the availability of natural resources. For example, mining companies have discovered zeolite (kitty litter), tungsten, or gold; geothermal users have located hydrothermal resources; and farmers have located fertile land and water, while some, as yet undiscovered, natural resources may be located within this area, it is not feasible to base an economic development program on such an unknown variable. Therefore, without any further knowledge of mineral resources in the area, the mining sector can be ruled out as a prime focus for proactive development work.

In a similar fashion, the natural resources used by the agricultural industry are limited. Water, which governs which and how much land can be irrigated, is scarce and is probably the primary limiting factor. The growing season in the Lahontan Valley is short. This fact, coupled with the finite water resources, limits the expansion

of irrigated crops land, particularly alfalfa. However, in recent years dairy production from Fallon area farms has steadily increased. Lahontan Valley is one of the primary milk suppliers for western Nevada and eastern California. Other opportunities for agriculture have been emerging including specialty foods, value added products, more table crops and vineyards. Due to regulatory water use measures imposed by the federal government, Lahontan Valley agriculture is seeking alternatives for water intensive crops. While agricultural expansion in terms of historic total irrigated acreage may not be possible, many opportunities still exist to increase total production, income and associated economic activities. Ag retention must become the priority. Prolonging the status quo of our current agricultural economy for as long as we can—only be done by at least maintaining the rights to water that presently exists.

A geothermal resource, like gold, is where you find it. Churchill County is rich in this resource, but development is almost exclusively site specific. That is, the geothermal raw material must be used close to where it manifests itself. Thermodynamic principles and present technology limits its direct thermal use at any great distance. While the majority of the county's development resources have been put to the most lucrative use, certainly others do exist: residential/commercial space heating, hydroponic farming of both food crops and ornamental plants, industrial process heat, and for raising edible fish, to name a few. In addition to the site limitations of geothermal resources, certain environmental considerations also influence development. Emissions, for example, have an unpleasant odor and can be costly to eliminate. Also, the cleanliness (total dissolved solids, chemical composition) of the resource, communication with other nearby resources, and the noise levels generated can all restrict development.

Finally, the classification of "other" industries holds some promise. The community generally agrees that light industrial development is highly attractive. Those with non-polluting processes, low water consumption needs, and semi-skilled workforce requirements are prime targets. SMI Joist along with other related businesses have formed a manufacturing/industrial core west of Fallon. Additional expansion is possible in this area. Another factor that

## 6. ECONOMIC DEVELOPMENT

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needs to be considered is industrial development occurring in adjacent communities. Fernley, Dayton, and Silver Springs areas continue to offer strong development opportunities. As this type of development moves eastward, Churchill County, particularly the western portion of the County, will likely play a more significant role in regional development either by providing opportunities for similar development and or residential communities for workers and business owners.

One "other" industry which is a major employer in Churchill County is the U.S. Defense department. They are using the natural resources of good flying weather, uncrowded skies, and BLM land for targets. This industry has significant possibilities for expanding and it requires a cross section of skills and pays nationally determined wage rates. Many services and products are required from the private sector by this industry, and Fallon would make a good office or headquarters location for many companies in the military industrial field. Significant improvement of airport facilities could be woven into incentives to aerospace industry prospects. Some contractual work is being performed at N.A.S. Fallon by out-of-state companies, that could be performed by a local company, and as contracts are renewed local companies should be aggressive bidders. This is also an opportunity for new businesses in Churchill County.

The area's transportation services appear to be adequate to support industrial attraction. By design, industrial park sites will be selected to maximize transportation access as well as access to, or the ability to secure, other needed basic services.

One of the weakest links in Churchill County's industrial development efforts is a readily available, skilled, and motivated workforce. The lack of available skilled employment with commensurate wage rates may have bolstered the current lack of skilled labor, but most assuredly, this situation will preclude attracting that very industry which we seek. However, this situation is not without hope. Educational institutions such as the Western Nevada Community College, governmental entities such as JOIN, Vocational Rehabilitation, and Employment Security, and local employers have all demonstrated that specific industry training needs can be met if the

need can be specified. The solution, then, may be to develop and execute specific training programs to meet a specific employer's needs--preferably a newcomer. Also, it is believed that many skilled workers would relocate to Fallon from metropolitan areas, if there were a job opportunity here for them.

The following types of industries have been identified as desirable or not for industrial attraction:

### DESIRABLE

1. Light industry/R & D firms/aerospace/small assembly/printing/machine shop
2. Feed Pelleting/sports equipment mfg./solar energy/electronic components/sheet metal fabrication
3. Business office/government/professional firms/medical

### UNDESIRABLE

1. Hazardous materials
2. Heavy water user
3. Air/water/noise polluters
4. Low skill/low wage

Overall, Churchill County has the attributes to attract industrial development. A major obstacle, however, is the lack of a fully developed industrial park and associated marketing plan. Such a park and available industrial lands with service could be used to capitalize on growth opportunities emerging throughout west central Nevada.

## THE BUSINESS PICTURE

There is a large retail business community in Churchill County providing most all consumer products, yet significant leakage to Reno and Carson City occurs. This suggests that a need for even more retail exists here, and the expansion of Raley's is probably based on this. Many existing businesses might profit from increasing inventories, especially by adding variety and increasing customer choice in

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products. It is generally believed that better purchases are made where more choices are available, allowing reasonable opportunities for comparative shopping. This is not necessarily true. It is also generally believed that anything in Fallon can be purchased cheaper in Reno. Also not necessarily true. Churchill County retailers need to consciously compete with Reno over the long haul to develop customer confidence and loyalty. Local retailers in general do not do a good job of working together, advertising together, complementing one another, and attacking the retail leakage. For existing businesses with large leakages such as clothing and sports equipment, positive marketing actions should improve profits. We also think there is room for additional retailers in Churchill County. This is based not only on the growth of our community, but our extended trade areas which includes Hawthorne, Gabbs, Austin, Round Mountain, Lovelock, Silver Springs, and Fernley.

The hospitality and sales-clerking skills in Churchill County are about average, which is not good. Our community could quickly become the friendliest, most up-beat community in the West with a little effort. A positive image campaign by the Chamber backed up by hospitality training sponsored by the business community on a continuing basis will probably bring the most improvement in retail for the least expense.

The development along Highway 50 West is viewed as bittersweet. Many goods and services are offered, and the economy is bolstered from the process, but how much better it would be if you could park once and avail yourself of all those businesses. Any good retailer knows the benefits of walk-in traffic, impulsive buying, and mutual market stimulation—all of which are missing in the highway development; shopping centers excluded. Master plans, industrial parks, city and county incentives, good leadership, and a united business community can prevent Fallon from becoming Nevada's longest row of disassociated buildings.

The service businesses in Churchill County are a relative bright spot in our assessment. Courteous, professional services are readily available and the market for new services is growing rapidly.

This is providing opportunities for expansion of existing businesses as well as new businesses. It is generally believed that local financial institutions could be more responsive to the business needs of the community. Churchill people perceive banking services to be adequate, but not really good. Active participation in Churchill County economic development programs would assist in improving this image as well as provide valuable insight for policy formulation.

### STRATEGY CONSIDERATIONS FOR ECONOMIC DEVELOPMENT

Special thought should be given to the following three areas as a strategy for economic development: Industrial Park Development, Community College, and Business Retention and Expansion.

#### Industrial Park Development

The development of an industrial park is a very important component of a rural county's economic plan. There are several basic characteristics that must exist for the park to be a successful holder of an array of business/industrial entities.

Transportation access and egress must be considered. Highways, rail connections, truck routes, air traffic hazards, ease of travel through and around the local community, and design of roads for truck use are essential elements to consider for site location. The land use map on file in the County Planning Office identifies several sites that meet these criteria.

The availability of an adequate and trainable labor supply is of utmost importance. This closely relates to the community college and its ability to support the labor force requirements.

An important aspect of industrial park development is that the site must have complete and adequate utilities in place. Another required characteristic of an industrial park is the development of a comprehensive zoning plan and set of covenants regulating the uses of the park.

## 6. ECONOMIC DEVELOPMENT

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There are considerations that must be addressed that are universal to overall aesthetic and use requirements of an industrial park. They are:

1. No visible storage. Companies do not like to be told to screen their storage after the fact. They must understand from the beginning that they will have to build berms, plant trees, or put acceptable fencing around outside storage.
2. No front-loading where the front door of the office is adjacent to the truck docks. Sufficient land area must be provided so this does not occur.
3. Parking ratios must be established to relate to buildings based on type of industrial use. County standards would establish the parking ratios. Five parking spaces per thousand square feet of office space is often used as a guide.
4. Signage: The use of signs within the park and signs on individual company buildings should follow a regulation established by the county. Unlimited signage activities can provide a very negative effect.
5. Minimum landscaping requirements: There must be written agreements on landscaping and the quality of outside land maintenance. It is an essential element for a park.
6. There must be specifications established for building design, including materials and colors. All building design and construction would have approval from the county.
7. It is imperative that close to dust-free site conditions prevail. It is an environmental component that most companies require.
8. Maximum height restrictions: A major factor affecting the aesthetics of a building is its height versus its setback relationship. A uniform maximum building height must be established.
9. It is essential to provide in covenants or other regulatory documents there be no visible emissions,

odors, objectional effluent, excessive noise, or hazards originating in the park.

The aforementioned industrial park considerations are a few of the many elements of industrial park development activity. A very important aspect of industrial park development is the financing component. Industrial parks are financed in several ways. Some are totally financed from the private sector, others are strictly financed by the public sector, and some are financed by a joint effort of the public-private sector.

The Economic Development Administration of the United States Department of Commerce has helped fund a number of industrial park projects. Most of these projects have been jointly funded from the private sector, local public sector, and the Economic Development Administration. This is still a viable way to finance an industrial park development.

### Community College: An Economic Development Consideration

Utilizing the community college as the skill-training component of the county economic development plan is imperative. Western Nevada Community College, Fallon Campus, is well prepared to provide an array of occupational skills, training, and support for expanding the workforce to accommodate business/industry job requirements.

The College occupational programs are those designed to provide the trainee with technical skills so he/she may enter the labor force upon completion of the program. Also, training can be offered for those on the job at their workstations to upgrade specific job skills.

These programs and training sessions are designed to educate students for semi-skilled professions, skilled professions, and semi-professional technical jobs. The programs provide related theory and hands-on laboratory experience.

The following are occupational programs now in place that

## 6. ECONOMIC DEVELOPMENT

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could be utilized in business/industry training:

### Business

- \* Computer Information Application
- \* Computer Information Programming
- \* Stenographic
- \* Word Processing
- \* Office Administration

### Trade/Industrial

- \* Electronics Technology
- \* Automotive Mechanics
- \* Machine Tool Technology
- \* Manufacturing Engineering Technology
- \* Welding Technology
- \* Drafting and Computer-Aided Design

Any part of the above programs could be offered to individual business/industry entities to provide job upgrading. New training programs can be developed and implemented. The Community College is an extremely flexible educational training vehicle, and it is postured to meet the workforce skill requirements of the county's public and private sector.

### Business Retention and Expansion

There are four economic development strategies that should be considered by Churchill County to enhance the development of its economy. They are: recruitment of business and industry, retention/expansion of existing businesses, small business development, and new enterprise development.

Long-term community interests are best served by a strategy that also includes a strong local approach to rural economic development. Independent or "homegrown" businesses that have survived beyond five years have much more of a vested interest in the rural community and its work force than recruited firms. They tend not to lay off workers unless absolutely necessary. They also tend to

expand local involvement in economic development decisions. Small independent firms, on the other hand, can be a special challenge in that they tend initially to generate many jobs but then decline, usually because of inadequate financing or business management. Nevertheless, small businesses can be more appropriate for the available small markets in rural areas--and the small amount of start-up capital required also makes small businesses a practical approach for many individuals and families. Thus, the evidence suggests that both recruitment and the alternative approach--retention/expansion of existing businesses, small business development, and/or new enterprise development--are essential ingredients to a rural economic development plan.

High on the priority list of economic development planning for rural communities and counties should be the support of retention and expansion of locally owned and operated business/industrial enterprises. According to a study conducted by the Chamber of Commerce of the United States, approximately 82 percent of the economic growth of an average American community results from the creation and expansion of locally owned and operated businesses. In Nevada, nearly 90 percent of new firms hire 20 employees or less. That size firm could easily fit into Churchill County and grow with it.

Several reasons why economic development efforts should begin with existing firms in the county:

1. Many of the local firms grew out of local advantages or demands.
2. Existing firms have proven their adaptability to local conditions.
3. An industrial development effort frequently will acquire quicker results dealing with local firms than it will by negotiating with outside interests.
4. Satisfied firms can form the best advertisement in attracting new firms to the area.

Certainly some problems and concerns of some local businesses/industry are beyond the control of Churchill County. The

## 6. ECONOMIC DEVELOPMENT

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County can do very little to influence national business trends and consumer attitudes, but there are a number of development-related activities it can influence, such as:

1. Provide good zoning ordinances that establish viable business/industry areas.
2. Reduce time and effort on business/industry efforts to expand by establishing workable and efficient rules and regulations for construction.
3. Support the development of an adequate labor force.
4. Arrange for improved transportation, utilities, and other infrastructure services.
5. Support the development of adequate housing, education at all levels, recreation, and other public services.
6. Support the development of occupational training programs by secondary schools, community colleges, and universities.
7. Maintain a superior 'climate' and attitude to enhance the economy of local business/industry.

For any economic development plan to be successful, there must be a commitment by the County and City, along with its involvement and support. Economic growth must be based on how the plan will enhance citizens of the total county and not just benefit a few. It is essential to have a consistent and rational policy for economic development.

The economy of the County can, with availability of adequate quantity and quality of water, continue to expand and, with an effective economic development plan in place, Churchill County will continue to be a favored place in which to live and work.

## 6. ECONOMIC DEVELOPMENT

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### OBJECTIVES:

1. Identify, select, and develop an industrial park site.
2. Establish vigorous programs for attracting a variety of commercial and industrial enterprises.
3. Encourage business community to utilize beautification techniques in commercial areas.
4. Provide directional signs to inform tourists of local, scenic, and historic attractions as well as campgrounds.
5. Encourage concentration of commercial areas within service regions and provide necessary services to support development.
6. Establish a public information center to inform tourists of the various attractions within the county.
7. Support the Chamber of Commerce as a public information source.
8. Identify types of employment and business opportunities that will entice the younger generation to stay in the county and contribute to its growth and development.
9. Support and retain agriculture, *its* efforts to create value added products, and the industry's necessary water rights and supply.
10. Encourage NDOT to complete the four-lane 4-lane expansion for U.S. 50 and other priority projects listed in the Transportation Element.
11. Solicit from businesses, employers, workers, etc., their evaluations of the efforts made by the City and County to maintain a positive environment for businesses and industries, workers and employers.

### REFERENCES:

1. Nevada Dept. of Employment, Training & Rehabilitation, Information Development & Processing Division

## 7. HOUSING

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**GOALS:**

1. Supply of housing that meets physical, social, and psychological needs of a variety of occupant groups and is commensurate with a range of income levels.
2. Maintain housing affordability in Churchill County.
3. Provide opportunities for a variety of housing development in unincorporated Churchill County.
4. Increase availability of affordable and supportive housing options, particularly senior and senior assisted housing.



## 7. HOUSING

Churchill County offers, with its climate, cleanliness and unsurpassed outdoor recreational opportunities, an excellent environment for living. There are ranch-style lots ideal for rural lifestyle.

Land prices are lower than in the nearby-urbanized areas of Carson City and Washoe County; and commutes to those areas are not difficult. Consequently, Churchill County presents a viable option for the attainment of home ownership for those working in Carson City and Washoe County.

The desirability of the area is also recognized by couples planning retirement. Many former service personnel of NAS return after retirement. Many others are looking for an attractive but lower cost community in order to stretch out retirement incomes.

A continuing increase of population at a rate of 3% per year has been projected for Churchill County. This was based upon the recognition of population growth from:

1. the County's commute proximity to Washoe County and Carson City, and emerging industrial areas of Lyon County,
2. its draw of retirees,
3. the growth that is energized by economic development and increasing job opportunities.

It is estimated that the county's total population, including Fallon, the Indian Colony and Reservation, and the Naval Air Station, as of 2000 is 23,982. Current estimates for 2002 by the Nevada State Demographer estimate the County's population to be 25,073. By 2010 the population of Churchill County is projected to be 34,442 and increasing to 46,287 by 2020 (Churchill County Water Resources Plan, 2000).

The estimates show that the number of residents over 65 has accounted for approximately 11.9 percent of the population down slightly from 12.8 percent in 1990. The percentage of those age 65 or older was probably due to the influence of new employment and family households seeking employment in Churchill County. Typically

employment growth leads an influx of working age households with children. As long as employment growth drives population increases the percentage of households with members age 65 and older should be minimal.

### Housing Conditions

In 2000 there were 9,732 housing units of which 8,912 were occupied. The vacancy rate was just over 8 percent. Homeowner vacancy is much lower at 2.6 percent. Single family detached housing accounts for about 60 percent of the housing stock, mobile homes 25 percent, and the balance being composed for multi-family and single family attached housing. Nearly all of the single family attached and multi-family housing is found in the City of Fallon. Most units in the unincorporated area are mobile homes and single-family conventional housing. There are a sizeable number of subsidized housing units in Churchill County. In 1997 there were 312 subsidized family units and 103 elderly units, and 144 Section 8 vouchers used in Churchill County. Currently, there is one assisted living facility in Churchill County, Green Leaf Manor.

Housing costs have also increased in recent years. The 2000 median gross rent was \$595 per month and the median value of specified owner occupied units was \$117,000 (2000 Census). Most rental rates in Churchill County range from a low of \$300 per month to \$1,000 per month. More recent data on home sales in Churchill County shows that the median house price climbed to \$138,000 and the average sales price was \$148,800 in 2002.

Overall housing affordability has changed very little in Churchill County. Approximately 24.6 percent of renters and 16.5 percent of owners pay more than 30 percent of the income on housing in Churchill County. Paying more than 30 percent of income for housing is defined as a housing cost burden particularly for those households at or below the median income. In comparison, the percentage of renters and owners paying more than 30 percent of their income towards housing was 27.5 percent and 39.1 percent,

## 7. HOUSING

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respectively for the State of Nevada.

### Housing Demand

About 66 percent of the housing stock in Churchill County is owner occupied. In the unincorporated areas alone the percentage of owners is much higher at 76.3 percent. Within the City of Fallon, there are more renters than owners. There are two factors that contribute to this situation: 1) military households and 2) and the lack of infrastructure to support high-density residential housing in the unincorporated areas.

In 2000 there were 9,732 housing units (occupied and vacant). The average household size is 2.65 persons per households. Table 7-1 shows the population and housing counts for unincorporated Churchill County, the City of Fallon and total housing demand. Between 2000 and 2020 the total number of new housing units projected to be built in Churchill County were 8,654. Approximately 32 percent of those units will be built within the City of Fallon assuming the ratio of County to City population remains the same. Of the total new housing units built approximately 15.5 percent are expected to be multi-family and single family attached units. In order to reach the population estimates, approximately 2,000 new housing units would have to be constructed every five years on average.

**Table 7-1 Housing and Population Forecast: 2000-2020**

	2000	2005	2010	2020
Churchill County				
Population	16446	20,381	23,627	31,753
Housing Units	6449	8,096	9,385	12,613
New housing units		1,647	1,289	3,228
City of Fallon				
Population	7,536	9,329	10,815	14,534
Housing Units	3283	3,706	4,296	5,773
New housing units		423	590	1,477
Total				
Population	23982	29710	34442	46287
Housing Units	9732	11,801	13,681	18,386
New Housing units		2,069	1,880	4,705

While there is sufficient land to accommodate the estimated twenty year housing growth needs, careful land use planning and quality control standards will be necessary to ensure that this growth is not detrimental to the community's rural environment. Strict landscaping requirements and open space/greenbelt areas will be necessary, especially for the development of higher density lots.

The continuing pressures to provide affordable housing will necessitate that strict controls are maintained especially as they apply to manufactured homes and mobile home parks. There are many ways to reduce the cost of housing, some of which will evolve from new materials and building concepts. The county administration also can assist by having consistent, effective procedures to ease the development process and the evaluation of new construction techniques. Lower quality housing, which negatively impacts the community, is not an acceptable solution.

At this time, the extent of these utility services in Churchill County is mainly within the city limits of Fallon. Sewer service also could be made available in the area between the sewage treatment plant and the city limits. The plant is approximately 1/2 mile east of Harrigan and Wildes. Sewer service could, therefore, be available to the west and north from the treatment plant. The plant is rated at a capacity of 1.2 million gallons per day; it does have excess capacity since it currently is processing .8 million gallons per day. Water service, outside the City of Fallon could be made available from the storage points on the top of Rattlesnake west and south to the city limits. Present policies and state statues interfere with implementation of this.

Without incurring considerable costs, the City of Fallon sewer and water services cannot be made available to areas west of Fallon. The City sewer facility is east of Fallon and the gradient of flow is such that the lines on the western edge of Fallon are very close to the ground surface. Extending to the west would require pumping mechanisms and upgrading or adding interceptor lines.

Churchill County is taking steps toward establishing water and wastewater systems in the unincorporated areas (See Public Facilities and Services Section). This development is driven by federal and state water acquisitions that may substantially reduce the groundwater recharge in Lahontan Valley. Additionally, the Nevada State Health Division has also issued guidelines for residential densities where individual homes are served by individual well and section systems. The current guidelines call for the development density not to exceed approximately 1 unit for every 3 acres.

## 7. HOUSING

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Policies:

1. High-density residential development is encouraged in areas to be served by county water and wastewater treatment facilities. Such development should occur in areas principally west and northwest of the City of Fallon.
2. Encourage and support the development of special needs housing particularly senior assisted living and handicapped/disabled supportive housing.
3. Limit residential development and urban encroachment near U.S. Navy facilities and lands.
4. Use residential density bonuses as a means to offset development costs associated with water and wastewater systems.
5. Ensure new residential development on individual septic systems does not cause density limits to exceed those established by the Nevada State Health Division.

## 8. EDUCATION

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### GOALS:

1. Encourage coordinated planning between the school district, Community College, City of Fallon, and Churchill County.
2. Continued effort to maintain an excellent educational program.

Education produces human capital, which in turn contributes significantly to the economic progress of individuals, communities, and the nation. Human resources development, as the foundation of rural development, needs higher priority than it has received. For smaller communities especially, investments in business development are likely to be successful only if complemented by investments in basic education, adult training or retraining, and job-related education. More important, investments in people are rewarding, whether a community is successful or unsuccessful in local job development.

Although overall social returns to both public and private investment in human capital compare favorably with returns to other forms of capital investment, many rural communities experience low local benefit-cost ratios because students educated at considerable sacrifice of funds migrate elsewhere. Many times, more wealthy urban communities receiving educated rural students reap the benefits. Thus, oftentimes rural communities subsidize economic growth elsewhere. In this respect, education is different from other local public investments. This difference does not call for less funding of education and training, it calls for more equitable funding among sources with heavy funding provided by the State.

Given a choice between investment in education to be realized elsewhere and investment in a local industrial park, a rational rural community may opt for the latter, although individuals and society benefit more from human resource investments. Greater state investment in rural education and training is defensible on equity as well as efficiency grounds as a principle component of rural development.

Two important educational institutions address rural education needs; they are the elementary and secondary schools located in the

Churchill County School District structure and the Community College. The College, a component of the Western Nevada Community College, provides the post-secondary activities of adult education, occupational training, counseling, manpower services, and the first two years of academic coursework transferable to the state universities. These two educational entities work effectively toward providing the educational needs of those living and working in a rural setting.

It is essential that a close relationship be established between academic training and vocational training. Occupations with the greatest growth potential require a solid base in academic skills for learning vocational skills. For example, successful operation of a commercial firm today requires substantial skills in management, marketing, and technology. Obtaining even the basic skills in language, arts, mathematics, science, and computer literacy in secondary schools leaves minimal time for job-oriented vocational training. Vocational training for job entry is usually best reserved for post-secondary programs, vocational schools, community colleges, and universities.

Many rural adults lack access to manpower training and employment services. There is a need to determine how these services can be more effectively integrated and combined at a community level. That integration is not easily accomplished. The distribution of services across several government agencies contributes to their inaccessibility and lack of coordination to serve rural human resource needs. At the same time, it is necessary to recognize that human and other public services entail high costs per person in sparsely populated areas. In the same communities, costs can be reduced and services expanded by broadening the school to become the location for a wider range of educational and training services.

## 8. EDUCATION

Current manpower retraining/training programs need to be made very accessible to rural adults and need to be designed so that education and training have the highest probability of being rewarded in the marketplace, which would include attention to emerging job prospects within the locality. Realistic appraisal of local job prospects is essential for local community labor pools. Too often, post-secondary vocational/technical programs have provided training for jobs that do not exist locally or even in the state. For human resource development to become a more integral part of rural development, it is essential that decision-makers have guidance concerning which investments are more likely to benefit local people.

Research shows a relationship exists between a community's investment in education and its prospects for attracting outside business and industry. If the investment is solid, the prospects are quite high to attract and sustain business/industry. Vocational and technical education needs to be designed to benefit local people wherever they eventually reside and are employed, rather than solely to benefit the local community. With the United States having a heavy mobile society, it is apparent that all educational systems are now contributing more to a national education system rather than local only.

One of the indicators of the community's investment in the quality of education can be seen in the pupil-teacher ratio. The Churchill County School District has maintained a low student-teacher ratio, as shown by the average class size for the 2002-03 school year for each grade (see TABLE 8-1).

Another indicator of the commitment to quality education by the District is the provision of relevant programs for exceptional children. A wide variety of services and programs are offered, as shown by December, 2001 enrollments in Special Education (see TABLE 8-2).

The Churchill County School District has in the past planned for additional sites and facilities to meet facility requirements for a growing school population. Enrollments in District schools from 1990 to

1997 showed the impact to be spread in all schools. In 1988 the district reorganized grade structure and expanded the high school to allow an even flow for growth.

**TABLE 8-1 Churchill County School District  
Average Class Size 2002-03 School Year**

Grade	Average Class Size			
K	20.4			
1	17.1			
2	16.8			
3	19.1			
4	25.8			
5	25.6			
6	25.0			
	Math	English	Science	Soc Science
7, 8	26	22	23	25
9,10,11,12	26	26	24	29

**TABLE 8-2 Churchill County School District  
Special Education Enrollment December 1, 2001**

<u>Primary Handicap Condition</u>	<u>Total</u>
Mentally	18
Aurally	10
Speech	51
Visually	1
Emotionally	7
Physically	6
Learning Disabled	192
Multiple	3
Physical with Health	20
Developmental Delayed	63
Total	<u>371</u>
Academically Talented	121

The community has shown its continued support for providing quality education through the passage of general obligation bonds for needed facilities during those growth years. In April of

## 8. EDUCATION

1990 a \$12,000,000 bond issue was passed which provided the following:

1. One new 600-student elementary school Lahontan Elementary
2. Remodeled the current elementary schools (Northside, West End, E.C. Best
3. Remodeling Churchill County Junior High School.
4. Additions to Churchill County High School for 400 additional students
5. Addition to and remodeling of the County School District Business Office

In 1994 the community again supported the passage of general obligation bonds for \$13,500,000. The 1994 bonds completed the following facility construction:

1. One new 700 student elementary school (Numa)
2. One new 700 student junior high school facility (Churchill County Junior High)
3. Additions to the Churchill County High School (science wing)
4. Remodeling Old High School building

Table 8-3 shows the district's enrollment pattern for the last 12 years. From 1990 to 1998 enrollment grew from 3600 students to 4824 students, a 34% increase or an average yearly growth of 5.8% per year. From 1999 to 2002 enrollment has dropped 280 students. That drop is a 6% drop or a -1.5% average drop each year. Table 8-4 shows the enrollment per grade level for the last four years.

**TABLE 8-3 Churchill County School District  
Historic Enrollment 1990 – 2002**

1990-91	3600	174	5.1%
1991-92	3721	121	3.4%
1992-93	3889	168	4.5%
1993-94	4167	278	7.1%
1994-95	4350	183	4.4%
1995-96	4470	120	2.8%
1996-97	4743	273	6.1%
1997-98	4766	23	0.5%
1998-99	4824	58	1.2%
1999-00	4736	-88	-1.8%
2000-01	4678	-58	-1.2%
2001-02	4610	-68	-1.5%
2002-03	4544	-66	-1.4%

**TABLE 8-4 Churchill County School District  
Enrollments by Grade Level (First Month)**

Grade	1998	1999	2000	2001	2002
K	347	360	345	311	306
1	394	397	403	409	377
2	375	331	357	332	353
3	401	387	310	341	325
4	406	399	381	303	335
5	391	410	409	373	307
6	358	402	391	401	350
7	346	361	385	382	393
8	369	344	365	384	385
9	352	343	384	375	385
10	358	327	293	360	379
11	344	302	316	295	311
12	302	306	261	276	278
Total	<u>4743</u>	<u>4669</u>	<u>4600</u>	<u>4542</u>	<u>4484</u>

## 8. EDUCATION

While the effects of future economic development on District enrollment cannot be specifically predicted, a projection of enrollment using co-hort projection methods does yield an indication of future trends. Two projections, one using the lowest co-hort factors from the previous five years and a second using the average co-hort factors, yield a probable range of enrollment growth as indicated in TABLES 8-5 and 8-6.

**TABLE 8-5 Churchill County School District Enrollment Projections – 2003-04 to 2007-08 3-Year Co-Hort**

Grd	03-04	04-05	05-06	06-07	07-08
K	290	283	281	267	261
1	371	345	338	332	317
2	320	305	288	281	276
3	339	308	294	277	270
4	319	332	302	289	272
5	336	319	334	303	290
6	293	322	303	319	289
7	339	286	315	295	311
8	395	340	287	316	297
9	404	405	349	295	324
10	356	386	391	334	283
11	437	360	390	395	338
12	<u>277</u>	<u>389</u>	<u>325</u>	<u>349</u>	<u>354</u>
Total	<u>4476</u>	<u>4380</u>	<u>4197</u>	<u>4052</u>	<u>3882</u>

**TABLE 8-6 Churchill County School District Enrollment Projections – 2003-04 to 2007-08 Average Co-Hort Rate**

Grd	04-Mar	05-Apr	06-May	07-Jun	08-Jul
K	301	293	281	269	261
1	369	351	343	332	317
2	324	309	296	286	280
3	349	317	299	289	281
4	322	346	314	297	287
5	336	323	347	314	297
6	304	333	317	342	309
7	350	300	327	313	338
8	394	351	301	327	314
9	396	404	366	309	337
10	348	355	361	332	279
11	362	328	342	347	316
12	<u>276</u>	<u>314</u>	<u>285</u>	<u>298</u>	<u>304</u>
Total	4431	4324	4179	4055	3920

It is clearly evident that the ongoing economic activities of Churchill County will continue to be reflected in the school population. This will require additional community support of new facilities if needed to meet enrollment growth or support of calendar and grade level and school restructuring if the drop in enrollment continues.

### COMMUNITY COLLEGE

Another extremely important educational component for Churchill County is the Western Nevada Community College-Fallon Campus. The Fallon Campus student population has been increasing rapidly, as indicated in TABLE 8-7. The 8.7%, 15.7%, and 15.4% increases in the student headcount from 1988, 1989, and 1990 respectively, are very significant. There is every indication the College enrollment will continue to increase in the years ahead.



## 8. EDUCATION

**TABLE 8-7 Fallon Campus Enrollment Figures  
Spring Semester, 1995-2001**

<u>Year</u>	<u>Headcount</u>
1995	1,047
1996	1,055
1997	1,148
1998	1,145
1999	1,183
2000	1,141
2001	1,050

The Fallon Campus is doing an excellent job of providing a wide array of occupational and academic courses specifically designed to support employers in the area. The following summary describes ably the employers that have been served in Churchill County and the number of students for the period 1985-90. It is a very impressive summary and the training programs have been a very important aspect of economic development in Churchill County.

**CHART 8-1 Employers Served Through WNCC, Fallon  
Campus/Rural Centers**

<u>Employers</u>	<u># of Participants</u>
NAS Fallon Civilian Personnel	120
Ford Aerospace Inc.	60
Churchill County Telephone Co.	40
Kennametal	15
FMC Gold Mine	30
Churchill County School District	80
Automotive Workshops sponsored in conjunction with Fallon auto parts stores	80
Churchill County Sheriff's Office	20
Western Nevada Community College	25

**CHART 8-2 Training to Meet Other Employment Needs**

<u>Employers</u>	<u># of Participants</u>
Clerical Skill Program	370

**CHART 8-3 Employers who pay for Their Employees to take  
Regularly Scheduled Courses**

Allen Corp.	City of Fallon
Churchill County Parks and Recreation	Fallon National Bank
Churchill County Sheriff's Office	Ford Aerospace
Churchill County Telephone System	First Interstate Bank
Churchill County District Attorney's Off.	Kennametal
Churchill County Assessor's Office	Lockheed
Fallon Police Department	Valley Bank
Inter Tribal Council of Nevada	Nevada National Guard
Naval Air Station, Fallon Civilian Empl.	Nevada State Parks
Naval Air Station, Fallon Fire Station	
Navy Tuition Assistance Military Empl.	

**CHART 8-4 Employer Who Receive Technical Support  
from the Fallon Campus of WNCC**

Auto Dealerships	Insurance Offices
Churchill County Assessor's Office	Kennametal
Churchill County Sheriff	Real Estate Offices
Churchill County School District	Senior Citizens' Center
Churchill County District Attorney's Office	

Along with employers utilizing the Community College for employee training, it is extremely important a plan be developed by the School District and the Fallon Campus to increase the number of high school students using the College's occupational programs to further enhance the labor force of Churchill County.

## 8. EDUCATION

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At present there is a lack of facility square footage to serve students. In its facility request for the 1991 legislative session, the University System has provided, in the priority 3 category, \$1,200,000 for a 16,000 square foot addition to the Fallon Campus. The new addition will provide classroom space, a media classroom, a library, and a multi-purpose area. This priority request for additional facility space will double the present square footage and should be completed and in use by Fall, 1992.

## 8. EDUCATION

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- OBJECTIVES:**
1. Encourage school locations in accordance with the Master Plan.
  2. Encourage coordination and communication between the county and all school officials.

- REFERENCES:**
1. Churchill County School District, Superintendent's Office.
  2. Western Nevada Community College, Fallon Campus Office.

The recreation component contains information about the existing profile of Churchill County's Parks and Recreation facilities, projected needs for the coming years, and guidelines and recommendations to achieve the goals.

### EXISTING PROFILE

There is a great diversity of recreational opportunities available in Churchill County for both residents and the visitors. These include sight-seeing, swimming, boating, bicycling, picnicking, camping, hunting, fishing, hiking, rock hounding, etc.

Churchill County's vast number of natural areas, historical and archaeological sites and developed recreational facilities are valued and used by the residents. With greater promotion these could provide significant potential for increasing the tourism economy.

The existing inventory data listed in this component are grouped as Parks, Natural Areas, Sport Facilities, Cultural Activities and Programs. TABLES 9-1 & 9-2, represents the inventory of the major areas and facilities. TABLES 9-3 and 9-4, list name, type, location, size (in acres, or if a building in square feet), status (C: completed, PC: partially completed, P: proposed but not built), anticipated improvements, additions and annual maintenance cost of the sites and facilities.

### PARKS:

The City of Fallon and Churchill County have a variety of Park facilities administered by the two government entities.

The City of Fallon oversees Laura Mills Neighborhood Park, Oats Community Park, the men's softball field, the planned Venturacci Park and Millennium Park and three small neighborhood mini parks.

Laura Mills Neighborhood Park, on Fifth Street, includes picnic tables, a disabled accessible playground, a xeriscape with native

plants, rose garden, pavilion, restrooms, walk area, exercise course, and open play area.

Oats Community Park is located on the south side of Court Street. Facilities include a playground, group picnic pavilion, basketball courts, walking trail, open play area, bandstand, and a little league field, an outdoor swimming pool, and two tennis courts. Contiguous to the Park is the Oats Park Arts Center.

The 5.7-acre North Maine Park includes the men's softball field, and the new Soroptimist Pioneer Park on Maine Street. The Men's Softball field is maintained by the Men's Softball Association the remainder by City of Fallon. Across Maine Street is a two-acre, three-field youth softball complex that is maintained by the Churchill County Youth Softball Association.

Development of the ten-acre Venturacci Park, on Venturacci Lane, has begun with the completion of a community skateboard park.

Ground breaking has begun on the one-acre Millennium Park on the corner of Williams Avenue and Maine Street.

The City of Fallon also administers and maintains three small neighborhood parks of 1.3-acres or less, which have picnic tables, play structures or small turf areas, including Broadway, Country Aire and Burntwood.

Churchill County Parks administers the seventy-eight acre Regional Park, the Churchill County/University Research Park, and the Lions Park softball fields.

Other facilities include an Olympic-sized indoor swimming pool, lighted softball field, hard ball field, a four and one-half acre multi-use field for soccer and softball, group picnic area, concession stand, sand volleyball court, horseshoe pits, playground, Pioneer Gardens, four tennis courts, and a twelve station Challenge course and climbing wall.

## 9. RECREATION

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The Multi-Purpose Building, available for events or classes, sits beside a festival area with a covered performance pavilion with stage, and five acres of grassy area with electricity and water.

Churchill County Fairgrounds is a regionally important events center providing important economic benefits to the Community. With two arenas and covered seating for 3000, 120 animal stalls, 10 acres of camping with 48 RV hook up sites, this complex continues to draw more and larger events. In 2003, 84,000 people attended events at the Fairgrounds, over 36,000 from out of town. Recent improvements included grant funded paving and grandstand improvements to enhance accessibility along with updated lighting and sound system. Future plans for the Fairgrounds area must include consideration for expansion and provisions to insure conflicts will not arise through incompatible development and residential encroachment.

Some of the numerous regional and national events include:

- Quarter Horse Shows
- Fallon High School Rodeo
- Nevada Indian Days and Pow Wow
- Silver State International Rodeo
- Nevada Reined Cow and Cutting Horse Spectacular
- The Cantaloupe Festival and County Fair
- Motocross races
- Lion's Club Junior Rodeo
- Senior Pro Rodeo
- Nevada Community College Rodeo

The Churchill County/University Research Park, located on Schurz Highway, includes eight acres of open play area, Liberty Pond community fishing facility with accessible pier, restrooms, concession, disabled accessible playground, and recently completed Dog Park.

### Improvements to Existing Facilities

At present, needed and planned improvements of existing systems include completion of development at Venturacci Park and Millennium Park, and lighting for Regional Parks' hardball and soccer fields. Both City and Regional parks' tennis courts are in need of renovation.

In addition to the three parks mentioned above, Churchill County has a nine-hole private Golf Course open to the public.

For racing enthusiasts, there are two facilities located in the community. Rattlesnake Raceway on the east side of Rattlesnake Mountain host stockcar and circle tract races weekly during the season. Top Gun Drag Strip, south of Fallon, hosts local, regional and national events.

**TABLE 9-1 PARKS:IMPROVEMENTS TO EXISTING FACILITIES**

## 9. RECREATION

Name/Facility	Location	Size	Status	Anticipated Improvement/Additions	Maintenance Cost
Laura Mills Park	Fallon	10 ac	C		* 2 parks & pool
Oats Park	Fallon	9.7 ac	C		\$78,000/yr
Churchill County Regional Park	Fallon	78 ac	PC	Multi-Purpose/Gymnasium Outside Basketball Court \$12,000 Sand Volleyball Courts \$1,000 Lighting for Multi-Use Fields \$215,000 Group Picnic Shelter \$10,000 Lighting for Soccer Fields Baseball Field – grass & sprinkler Indoor Events Pavilion Land Acquisition for Expansion Fields and support facilities	Fairgrounds \$53,000/yr Pool \$140,000/yr Parks \$36,000/yr Administration \$66,000/yr
Venturacci Park	Fallon	10 ac	PC		
Millennium Park	Fallon	1 ac	PC		
Churchill County/University Research	Fallon	15 ac		Dog Park	
Broadway Park	Fallon	1.36 ac	C		
Country Aire	Fallon	.68 ac	C		
Burntwood	Fallon	.43 ac	C		
<b>TOTAL</b>		<b>126.17 ac</b>		<b>\$722,000</b>	<b>\$373,000/yr</b>

## 9. RECREATION

TABLE 9-2

PARK FEATURES

Features	Venturacci Millennium	Laura Mills Neighborhood Park	Oats Community Park	Churchill County Regional Park	Pioneer Park	Neighborhood Park(s)	Lions Fields		Research Park
Picnic Tables		10	14	12		3	2		3
Group Picnic Area			1	1					
Gazebo		1					1		
Play Grounds		2	1	1		3			1
Exercise Course		1							
Restrooms		1		3			1		1
Open Space/Walkway		1							1
Swimming Pool/Outdoor			1						
Swimming Pool/ Olympic size				1					
Tennis Court			2						
Lighted Tennis Court				4					
Fairgrounds				1					
Arena				2					
Pens				40					
Stalls				120					
Concession		1	1	2					
Multi-Purpose Room				1					
Staging Area				1					
Baseball Field				1					
Softball Field				1			3		1
Multi-Use Field				1					
Lighted Horseshoe Pits				12					
Skate park	1								

\* Includes Little League and Gymnasium

### TRACC Trails Across Churchill County Master Plan



#### VISION STATEMENT

TRACC - Trail Across Churchill County - will provide a multi-use trail system for recreationists of varying abilities, including hikers, equestrians, cyclists and joggers. Residents and visitors of Churchill County and Lahontan Valley will enjoy expanded recreation, leisure time and alternative transportation opportunities. The entire TRACC plan is incorporated in the Master Plan by reference.

#### INTRODUCTION

Churchill County's Lahontan Valley is blessed with level terrain and miles of rural roads. With an annual rainfall of less than five inches and relatively mild climate, the area is conducive to bicycle riding almost every month of the year.

Master Plan Surveys conducted in 1971, 1991, 1997, and 2004 found that the community supported establishment of trails for bicycling, hiking and jogging. In 1998 a planning group was formed to develop a Master Plan for trail development. In August of 1998, a route plan was recommended by the Parks and Recreation Commission and passed by the Churchill County Commission to become part of the County's Master Plan. Additions to the trail development plan include a paved bicycle path north of the River and along Sheckler Road.

The following narrative further defines that plan by describing levels of development and design criteria for the plan routes.



## 9. RECREATION

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### DEFINITIONS

**BICYCLE** - A vehicle having two tandem wheels, either of which is more than 16" in diameter or having three wheels in contact with the ground any of which is more than 16" in diameter, propelled solely by human power, upon which any person or persons may ride.

**BICYCLE FACILITIES** - A general term denoting improvements and provisions made by public agencies to accommodate or encourage bicycling, including parking facilities, mapping all bikeways, and shared roadways not specifically designated for bicycle use.

**BICYCLE LANE (BIKE LANE)** - A portion of a roadway which has been designated by striping, signing and pavement markings for the preferential or exclusive use of bicyclists.

**BICYCLE PATH (BIKE PATH)** - A bikeway physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right of way or within an independent right of way.

**BICYCLE ROUTE (BIKE ROUTE)** - A segment of a system of bikeways designated by the jurisdiction having authority with appropriate directional and informational markers, with or without specific bicycle route number.

**HIGHWAY** - A general term denoting a public way for purposes of vehicular travel, including the entire area within the right of way.

### OBJECTIVE

The TRACC (Trails Across Churchill County) Master Plan will define non-motorized trails that exist or are planned within the county. This plan will examine each of the proposed routes, bicycle trails, bike routes, bike paths, bike-hike trails, and equestrian trailheads.

The trail system as it develops will provide alternative transportation opportunities as well as links between schools, parks and commercial centers. It will provide recreation opportunities for bicyclists, hikers, joggers, and equestrians.

### FUNDING

Churchill County Parks and Recreation Department will coordinate the funding of the ongoing project. Development will occur based on priorities and fund availability as provided by the Parks and Recreation Commission. County general fund money and County Room Tax may be leveraged for grants from Recreational Trails Act, Bureau of Reclamation, or Federal Highway funds.

Future funding may be provided through a Residential Construction Tax or Tax Override.

### DESIGN CRITERIA

It is the goal of this plan to provide safe bicycle and trail environments based on sound engineering design. With respect to bicycle trails, this plan is in conjunction with a program of bicycle safety education and training provided to the district schools and community.

Bicycle route, lane and path design is based on AASHTO (American Association of State Highways and Transportation Officials) guidelines presently in effect and as amended in the future. All signage, signals, and pavement markings will be based on the Manual on Uniform Traffic Control Devices.

### TRAIL SYSTEM MAINTENANCE STATEMENT

All improvements within the trail system shall only be undertaken after review of department's maintenance capability and

## 9. RECREATION

assurance that facilities will be maintained to acceptable safe standards.

Resources for maintenance of routes shall be budgeted for when planning each facility. Maintenance shall include sweeping of paved sections and periodic sealing. Patching and repaving when necessary. Trees and shrubs shall be pruned out of right of way and all clearances maintained. Periodic checking of signs and replacement when necessary shall be included.

### NATURAL AREAS (TABLE 9-3)

Several natural areas and historical and archaeological sites are located within Churchill County, which could enable the County to become an important vacation area.

**The Lahontan State Recreation Area:** Lahontan State Recreation Area is located on the Carson River, 18 miles southwest of Fallon. The reservoir is almost 17 miles long with 69 miles of shoreline and has 10,000 acres of water surface when full." This recreation area is open all year with maximum use during the late spring and through summer. Lahontan became a Nevada State Recreation area on July 1, 1971.

Facilities at Lahontan State Recreation Area include picnic areas, boat launching areas, and shower facilities. Fishing and hunting activities are permitted. Anticipated improvements and additions consist of a marina, concession, and developed campgrounds. User days has exceeded 500,000 in past years. However, prolonged drought and changes in operating criteria of the dam for irrigation purposes has greatly diminished the attractiveness of this recreational area.

**Sand Mountain,** 4,705 acres, is a historical site under the jurisdiction of the Department of the Interior Bureau of Land Management. It is located in central Churchill County about 23 miles east of Fallon. The mountain itself is about 3.5 mile long, one mile wide, and rises 600 feet above the valley floor. Composed

predominantly of well rounded, well sorted quartz sand, the mountain is known to be a sound producing dune that "booms"- emitting a low-frequency sound when steep unstable slopes are disturbed. This has given rise to the local name for the dune of "Singing Sand Mountain". The peak elevation of the mountain is 4,610 feet. The area also contains the Sand Springs Pony Express Station ruins.

Sand Mountain receives more than 40,000 recreational visits per year making it one of the most popular recreational attractions. In the past, most of this area's use was passive in nature such as sightseeing, hiking, and nature study. However, with the advent of the motorcycle, four-wheel drive vehicles, three wheelers and dune buggies, the types and number of visitors to Sand Mountain increased dramatically. Today, motorized recreation accounts for over 90% of the total visits to the area. About 53% of the visitors to Sand Mountain originate in California or other states. Most overnight visitors are in fully self-contained motor homes, travel trailers or campers. The average length of stay for campers is about 32 hours. Day use (mostly from Fallon and Reno) ranges 1 hour to 8 hours.

**Grimes Point,** 720 acres, is an archaeological area situated in the Great Basin. The area is located ten miles east of Fallon. The elevation ranges from 3,900 to 4,400 feet. The surrounding Carson Desert is a dry to marshy inter-mountain basin which represents the terminus of the Carson River as it flows eastward from the Sierra. While today the hills overlook an arid, sparsely vegetated landscape, the setting was dramatically different several thousand years ago. During the Ice age the Carson Desert was intermittently filled with water. This setting attracted prehistoric people. With the numerous caves and rock shelters, Grimes Point provided storage and shelter for the prehistoric hunters.

Today the area is readily accessible to the public and contains several hundred petroglyph bearing boulders, pictographs, and caves associated with prehistoric people. The Bureau of Land Management has provided covered picnic tables; restroom parking area, and interpretive center and trails to preserve this cultural heritage and

## 9. RECREATION

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reduce vandalism.

**Cold Springs Pony Express Station**, 3,840 acres, is a historical site, located 59 miles east of Fallon. Cold Springs has been known for some time as perhaps the best-preserved Pony Express Station in Nevada, along the trail ridden by the Pony Express from April 1860 through October 1861. During its 18 months of operation, the Pony Express carried mail between St. Joseph, Missouri, and Sacramento, California.

There are few historical remains of the actual Pony Express Trail because the solitary riders left little trace of their passage. Also the trail often changed from week to week because of weather, passability of streams, or danger of Indian attacks..

**Clan Alpine Mountains**, 196,128 acres, and **Desatoya Mountains**, 51,262 acres, are proposed as wilderness areas. An environmental impact statement is being prepared by the Bureau of Land Management to analyze the consequences of designating or not designating these areas as wilderness areas.

Under the proposed alternative, motorized recreational use will not be allowed within designated wilderness areas. These proposals are preliminary and subject to change by the BLM Director, Secretary of the Interior, or the President before they are presented to Congress for legislative action.

**The Stillwater Wildlife Management Area** encompasses the largest marsh in Nevada and serves thousands of geese and ducks and other water birds flying along the east side of the Sierra Nevada.

In 1948, action was taken to prevent complete loss of the marshes. The Department of the Interior and the Nevada Fish and Game Commission entered into an agreement with the Truckee-Carson Irrigation District to develop and manage 224,000 acres of Newlands Irrigation Project lands. These were designated as the Stillwater Wildlife Management area. In 1990, the boundaries of

Stillwater NWR were expanded to 79,570 acres, incorporating a portion of the Stillwater WMA. The added portion remained open to public use, while the original 24,200 acres remained as sanctuary. In 2002, the Fish and Wildlife Service submitted a proposal to Congress to modify the boundaries of Stillwater NWR. This proposal would consolidate portions of the Stillwater WMA and Fallon NWR, as well as riverine riparian habitat along the Carson River and sand dune habitat, into one refuge. Under this proposal, the Stillwater NWR would encompass approximately 137,500 acres. About 24,200 acres of the Management Area were reserved as the Stillwater National Wildlife Refuge, for administration as a non-hunted sanctuary. Without this marsh, most of the Flyway through western Nevada would be lost.

### CULTURAL ACTIVITIES AND PROGRAMS

**The Churchill County Museum**, located at 1050 Maine Street, brings the past to life. The quality and variety of the exhibits are largely due to the generous contributions of the county residents.

Visitors can experience in vivid detail the events of historical significance as well as the everyday patterns of life of the peoples of Churchill County.

**The Western Nevada Community College** administrative center is located at 160 Campus Way, Fallon. The college offers a broad curriculum including art and athletic/fitness classes.

The facilities are limited and cannot accommodate all the classes offered by the college. Therefore, classroom space is rented in Fallon. Additional facilities (including a 2,000 seat auditorium, 2,500 sq ft multipurpose room, and 1,200 sq ft arts and crafts room) are needed to meet the growing educational and cultural interests of the community.

**Churchill County Community Senior Center**, located 310 East Court Street, provides 100 - 150 daily lunches in a social setting and 35 - 46 meals on wheels. Other specific features of the center

## 9. RECREATION

include a Thrift Store and Gift Shop, a Transportation Service, Flu Shots, a Blood Pressure Clinic, a Daily Bingo Game, and Painting Classes.

**TABLE 9-3 NATURAL AREAS**

Name/Facility	Location	Size	Status	Improvement/Additions	Maintenance Cost
Lahontan State Recreation Area	Hwy 50, 18 mi West of Fallon	12,000 ac	PC	Marina, Concession, Developed Camp Grounds \$2,000,000 <sup>1</sup>	\$380,000/yr <sup>1</sup>
Sand Mountain - Singing sand mountain - Sand Springs Pony Express Station	Hwy 50, 23 mi East of Fallon	4,705 ac	PC	Interpretive Signing, Restroom, Fencing etc. \$80,000 <sup>2</sup>	\$10,800/yr <sup>2</sup>
Grimes Point - Hidden Cave - Petroglyphs	Hwy 50, 10 mi East of Fallon	720 ac	PC	Interpretive Signing, Restrooms, Tables, etc. \$105,000 <sup>2</sup>	\$9,000/yr <sup>2</sup>
Clan Alpine & Desatoya Primitive Areas	60-70 mi East of Fallon	*	P		N/A
Cold Springs Pony Express Station	59 mi East of Fallon	3,840 ac	C		\$2,000/yr <sup>2</sup>
Stillwater	15 mi North East of Fallon	24,200 ac	C		<sup>3</sup>
<b>TOTAL</b>		45,465 ac		\$2,185,000	\$401,800/yr

\* Yet to be determined

<sup>1</sup> Responsibility of Nevada Division of State Parks

<sup>2</sup> Responsibility of BLM

<sup>3</sup> Responsibility of U.S. Fish and Wildlife Service

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**TABLE 9-4**

**SPORTS FACILITIES PRIVATE/PUBLIC**

Name/Facility	Location	Size	Status	Improvements/Additions	Maintenance Cost
Oats Park Little League Field & Concession	200 East Park	1 ac	C		Included in Table # 22
Oats Park Gymnasium	200 Sherman	9,000 sq.ft.	C		
E.C. Best Gymnasium	750 East Williams Ave.	12,800 sq.ft.	C		Administered by Churchill County School District
E.C. Best Little League Field	750 East Richard	1 ac	C		
1 Softball Field	790 E. Richard	1 ac	C		
Babe Ruth Field	750 East Richard	1.6 ac	C		
North Main Youth Softball Fields, Picnic Area & Restrooms	North Maine	2 ac	C		\$1,700/yr Administered by Youth Softball Association
Men's Softball Complex Softball Field & Concession	North Maine	2 ac	C		\$4,000/yr Administered by Men's Softball Association
Fallon Golf Course	2655 County Club Dr.	9 holes	C	9 holes expansion	
Exercise/Fitness Center 3 Racquetball Courts (Body Shop)	161 Industrial Way	10,000sq.ft.	C	Additional Racquetball court, Additional Free Weight Room	
Fallon Gymnastic Center	154 Industrial Way	2,400 sq.ft.	C	1,400-sq.ft. expansion	
Body Toning/Passive Exercise	152 Industrial Way	1,600 sq.ft	C		
Roller Skating Place	125 Grand Avenue	15,000 sq.ft.	C	Trick Lighting Big Screen TV	
Oasis Bowl	1555 S. Taylor	12 lanes/ 12,000 sq.ft.	C	6 lanes expansion \$350-400,000	
Curves for Women Fitness Center	2121 W. Williams	1000 sq ft	C		
Total Fitness/Fitness Center	1925 W. Williams	1000 sq ft	C		

Organizations like the **Churchill Arts Council** and the **Lahontan Valley Choir** hold art shows and concerts aiming to nurture culture and arts in Churchill County. The **Fallon Footlighters**, local group of people interested in drama, puts on 3-

-4 shows a year. Most of these organizations meet monthly and have no facility. A center is needed to house these and other groups.

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The historic **Oats Park Arts Center** includes a performing arts theater, galleries, exhibits, classrooms, and a library and has become an invaluable community resource. It provides education opportunities and experiences in the arts, aiding the economic development of the region as well as serving as a nationally recognized demonstration project for the adaptive reuse of historic buildings.

### THE NAVAL AIR STATION

Fallon Naval Air Station provides parks and recreational services through their Morale, Welfare, & Recreation Department and serve exclusively Navy personnel and their families. Training CAGs and air wings number 1800-2000 additional people served. Their facilities include:

- 3 softball fields
- 1 football field
- 1 community park (Sorenson Park) with:
  - 4 group picnic pavilions
  - Sand volleyball
  - Horseshoes
  - Go cart track
  - Bowling Center
  - Recreation equipment rental
  - Event & Entertainment division (IH)
  - Indoor Livestock arena and stalls
  - 2 tennis courts
  - Outside basketball courts
  - Indoors pool with water slide
  - Small outdoor pool
  - Fitness center
  - Gymnasium with weight room & climbing wall

These facilities generally are not open to the public and are for use only by military personnel, civilian employees and their dependents. However, the Base is very generous in its support of

many activities and events such as the Air Show, the Senior Class Party, Special Olympics and Boys State. Even though there are many recreational facilities at the NAS, the county facilities are frequently used by base personnel, especially by the military personnel and their dependents who live off the Base. Therefore, the facilities located in the NAS were not included in the total resource figures of facilities available, but 50% of the base population was included in forecasting future needs by the County.

### PROJECTED NEEDS

The amount of parkland and open space needed for a community is based on its unique characteristics, traditions, interest and the level of recreational activity desired.

Fallon has been evolving from a rural agricultural community to a more urban/suburban community. A wealth of open space and agricultural land is slowly being subdivided into lots and developed.

There is a growing desire, based on the expansion of youth sports leagues and results from community needs surveys taken every five years, for more formal and developed park lands and facilities.

The National Recreation Park Association (NRPA) has developed formulas based on community need assessments, which suggests a recommended park system would provide between 6.5 – 10.5 acres of parkland per 1,000 residents.

Presently Fallon and Churchill County have approximately sixty-five acres of developed parklands, which is equal to 3.4 acres per 1,000 residents but still 42.5% of the recommended space. This is an increase from 1993 figures.

Another measure is that of facility needs which can be determined by examining individual activity, the carrying capacity of the facility, duration of play and turn-over as well as reoccurrence of activity. An example would be adult softball. Approximately twenty-two teams in the

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league have practice twice a week or have one game and one practice per week. Practice or games last one and one half hours. Three games can be played per night. Six teams can be accommodated on a field on game nights, three on practice nights:

22 teams x 2 practice/week = 44/3 turnovers

Pre-season accommodations = 146 field nights = need of 2.4 fields 6 days a week in the spring and 2.1 fields during game season.

One day of rest and maintenance is allowed per field. Therefore, a minimum of one additional and preferable two fields are needed to accommodate the number of teams playing adult softball in this community.

Another measure of facility needs is based on accessibility and adequacy of meeting needs.

A soccer program with 600 youths playing during the fall season with diminishing natural light will need facilities with artificial lighting. A similar situation exists with youth football programs.

Changing attitudes and desires affects facility use. The recent addition of a skateboard park met an obvious need in the community as reflected in the community survey. Although tennis has continued to be a popular sport, courts at Oats Park and the Regional Park are in desperate need of renovation. Here the numbers are adequate to meet the need, but the quality is not.

Community need surveys have continuously found picnic facilities, bicycling, and walking and jogging paths as top priorities. With the completion of the TRACC Master Plan and the inclusion of bike routes, a hiking/biking trail, and an equestrian trailhead, this need is being addressed but availability falls far short of demand, especially in the more congested areas of town.

The community's agricultural character, and large tracts of nearby public lands and natural areas temper the need for open space. However, one significant underdeveloped resource is the Carson River. Establishing a "green belt" development accessible to all for walking, cycling, jogging etc. along the river would be an excellent addition to the county's recreational inventory.

NRPA has also developed facility standards to evaluate and forecast the number of each type of recreation facility necessary to meet existing and projected activity demand. TABLE 9-4 presents these facility standards.

Churchill County has good quality parks and recreational facilities at present. However growth in population over the next decade will require significant investment to maintain the quality and to meet the variety desired by the residents. Additions and improvements to and maintenance of the facilities are very costly. It is advisable for both the county and the city to take full advantage of all potentially available funds, such as a Residential Construction Tax. Even though funds from this tax cannot be used for maintenance purposes, they can be used for purchasing new sites and for improving existing facilities.

With the large amount of housing construction anticipated in the future, some neighborhood parks will be needed in the more densely populated areas. For example, acquisition of public access along the Carson River should be evaluated to protect it as a recreation area for the benefit of the entire community. Preserving lands along the Carson River would provide green belt and open space for biking and jogging trails, picnic areas, and play ground. Its central location gives it accessibility from all segments of the community.

A Master Plan-Community Needs survey was completed in 2004. Fifty-two percent of the respondents indicated that parks and recreation were very important while 38 percent ranked parks and recreation as important. According to the survey results, the following is a list of the community's top desires for recreational facilities.

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Hiking/jogging Trails	Picnic and BBQ Areas
Multi-use Events Center	Bicycle Paths
Open Space/Natural Areas	Shooting Range
Children's Playground/tot's lots	Public Golf Course
Athletic Fields and Courts	Stage and Drama Facilities
Off-Highway Vehicle Trails	Outdoor Basketball Courts

These survey results coincide with the results of the previous community surveys conducted in the years 1991, 1995, and 1999.

Many community recreation activities and facilities could be accomplished better by joint effort between the City of Fallon, Churchill County, the School District and the Community College. For example, providing a Gymnasium/Community Center/Auditorium facility to satisfy the needs of indoor sports, cultural and arts activities will require very active cooperation and coordination among the different public agencies (the City of Fallon, Churchill County, the School District and the Community College) to fund the construction and operation of the facilities jointly.

Since 1990, the Churchill County Parks and Recreation Department has conducted research to determine Churchill County's specific needs, which reflect the unique characteristics of the community. The standard for playing fields was found to be inadequate for present needs. This shortage will become acute as the growth occurs in the youth population.

Organized sports are very popular in Churchill County and Young Women's Fast Pitch Softball, one of the largest programs, is relatively unknown in other areas of the country. Youth Baseball, Pop Warner Football, Soccer and Adult Softball have higher than

average participation compared to most communities.

Survey respondents were supportive of impact fees to cover the cost of new parks and improvements. Seventy-four percent were strongly in favor or in favor of impact fees. The majority of respondents (56 percent) were in favor a bond or tax override to support development of parks. A majority of respondents were willing to pay additional taxes in the amount of \$20 to \$75 per year to support facility improvements. Survey respondents were about evenly split on the question of the redistribution of county general funds to support parks.

The needs expressed in Table 9-5 include data from participation in 2004, growth projections from Churchill County School District, field availability during the playing season, and turnover rates for organized sports. These needs do not include non-affiliated teams and drop-in games. The field requirement is calculated as follows:  $\{(\# \text{ league parties} + \# \text{ members per team}) \times \text{min } \# \text{ practices per wk}\} + \# \text{ practices available per week} = \# \text{ fields needed}$ .



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**TABLE 9-5 FACILITY STANDARDS/NEEDS**

Activity/Facility	NRPA Standards	2002 P=24,500*		
		Participants	ACT	Need/STD
Softball Fallon Youth Softball Adult Softball	1 per 5,000	280 332	3 1	5(S) 4(N) 3(N)
Baseball  Babe Ruth Little League T Ball	1 per 5,000 Lighted - 2 per 30,000	  780	  4 2 3 2	4(S) 1(S)  2(N) 4(N) 2(N)
Soccer Upper Division Lower Division	1 per 10,000	564	2 2	(N)5 (N)4
Football Pop Warner	1 per 20,000	200	2	2(S) 4(N)
Tennis	1 court per 2,500		6	8(S)
Basketball	1 per 5,000		4	4(S)
Volleyball	1 per 5,000		4	4(S)
Horseshoe	1 per 2,000		12	10(S)
Swimming Pool	1 per 20,000		2	1(S)
Golf Course	9 hole 1 per 25,000 18 hole 1 per 50,000		1	1(S) -

\* Population includes 50% of NAS personnel and their families -- Under columns Need/STD -- (S)=Standard, (N) = Need

### **Facility Standards-Parks**

Following is a list of different classes of park facilities based on size, service area, and use. Most communities in this country have found this hierarchy and a similar criteria best meet the variety of identified facility needs.

#### **Mini-Parks**

Mini-Parks-Mini-parks, pocket parks, tot lots, and children's playgrounds are all small, single purpose areas designed for activity use for children and passive use for adults.

##### **Design Standards:**

- A children's playground
- Small, open grass play area
- Site amenities (picnic tables, benches, bike racks, drinking fountains, trash receptacles, etc.
- Security lighting and clear unobstructed visibility where possible

#### **Neighborhood Parks**

Neighborhood Parks are generally 5 to 10 acres in size. Approximately 2.5 acres of park is required for each 1,000 people. They serve an area with a .5-mile to 1-mile radius based on other available recreational resources. Typical facilities include picnic areas, playground, open grass area, trails, sports courts and fields. Portable or permanent restrooms may also be included. Parking is generally provided on street. Neighborhood parks are ideal for location next to elementary schools.

##### **Design Standards:**

- Unobstructed open plays areas and practice fields (typically non-regulated in size).
- Children's playground
- Picnic areas with shade shelters and shade trees
- Pathways and access trails

- Site amenities
- Security lighting and clear unobstructed visibility
- Optional-basketball courts, tennis, handball walls,
  - On-street parking

#### **Community Parks**

Community Parks-A community park is planned to primarily provide active and structured recreation opportunities. They are designed for organized activities although passive activities are encouraged. They typically serve an area up to 3 miles in radius and range in size from 10 to 30 acres. Community parks are intended to support a variety of needs ranging from those that are neighborhood in orientation to those that are more "community" in scale such as:

- Undeveloped open space
- Large group picnic areas
- Formal and informal activity areas.

At least two-thirds of the park should be made available for active structured recreation activities. Community parks should be located in an area that provides adequate vehicle access.

##### **Design Standards:**

- Designated sports facilities (lighted fields)
- Tennis and Volleyball courts
- Restrooms and parking facilities.
- Site amenities including permanent restroom facilities.
- Location of non-traditional recreation facilities such as community gardens, skate parks, challenge area, natural areas.
- Complementary recreational, educational, cultural and public facilities.
- Trail System
- Picnic area with shade shelters and shade trees.
- Provide adequate buffering to existing residential areas.

#### **Regional Park**

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Regional Parks-contain unique natural features ranging from 100 to 200 acres in size or more and offer recreational opportunities that are not generally available in neighborhood or community parks. Although regional parks can include structured recreational facilities such as athletic complexes and swimming pools, emphasis on regional parks in Churchill County will be on natural features, and open natural use areas. Soda Lake area will be designed to predominately function as a regional park. However, approximately 50 acres in this area will be reserved for structured recreational facilities (possibly in two sites), and compatible public facilities. Compatible uses include schools, public safety, government facilities, cultural functions, etc.

### Site Standards:

- Open multi-use natural open space areas
- Multi-use trails.
- Limited Site amenities
- Structured recreational facilities (reserved)
- Shooting or archery ranges
- Community fishing resource and support facilities
- Complementary recreational, cultural, educational and public facilities (reserved)
- Picnic and group areas
- Equestrian facilities

### Planned Facilities 2005-2010

Over the next 5 to 10 years, Churchill County will require several new park and recreation facilities as identified in Figure 9-1, Parks and Recreation Facilities Plan identifies the major park and recreational capital improvement projects. Major planned improvements are as follows:

**Sand Creek Neighborhood Park**-This facility is a 5 to 10 acre neighborhood park. Site standards as described in this plan will apply. The total estimated cost of the park improvements could

range from \$500,000 to \$1,000,000.

### Moody Lane Neighborhood Park

This facility will be a smaller neighborhood park about 8-10 acres in size. The total estimated cost of park improvements will range from \$800,000 to \$1,200,000.

### Northwest Trail System-

**Phase I** of the northwest trail system is planned as an asphalt multi-use trail connecting the river corridor area to parks and recreation facilities north of Rice Road in the Hillsboro/Gummow Lane area. Additional linkages to Venturacci Park will also be considered. The first phase of the trail system will be approximately 3 to 4 miles in length. The cost per lineal foot is estimated between \$25 and \$40. The total cost of the improvement is estimated at \$400,000 to \$650,000. This cost does not include land or right of way acquisitions.

### Gummow Drive Community Park and Recreation Complex

This is a major recreation facility which can be integrated with other public facilities such as schools. The proposed site is likely to be 30 acres in size with at least two-thirds of the facility being dedicated to structured recreation facilities. The total cost of the improvement is estimated \$3,000,000 to \$4,000,000. Additionally, the park will have a sizeable amount of land (10-20 acres) dedicated to open space and trails.

### Soda Lake Regional Park

**Phase I** Planned Improvements to the Soda Lake Regional Park will be limited. Phase I will provide access roads, trail system, parking for horse trailers, and limited site amenities. Total costs for the initial improvements is anticipated to be less than \$100,000. The

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southeastern portion of the park will be reserved for a neighborhood park and public facility site.

### **Indoor Events and Recreation Complex**

An indoor events complex can range in cost from \$3.5 million to \$6.0 million depending upon the size and amenities of the facility.

### **Expansion of Fair Ground Facilities**

- Outside Basketball Courts
- Sand Volleyball Courts
- Lighting for Baseball Fields
- Group Picnic Shelter
- Lighting for Soccer Fields
- Baseball Fields-Grass and Irrigation System
- Parking Expansion and Improvements
- Land Acquisition

### **Hazen/Bench Regional Park**

**Phase I** – Phase I of the Regional Park facility will consist of approximately 10 to 15 acres. The park will include regulation size ballfields, basketball and tennis courts. Other site improvements as defined in this plan will be required. Lighted facilities will eventually be available at the site. Total acreage for the park should be 25-50 acres in size. Compatible public facilities can be located near the facility. A new revenue source must be developed to maintain Hazen area recreation facilities.

### **Recreation Policies and Action Programs**

Rec 9.1 Churchill County supports the use of various revenue options for the development of new park and recreation facilities. Such revenue options include higher use fees, impact fees, residential construction tax, and recreation districts. Churchill County also supports the use of various new revenue options for on-

going recreational facility maintenance.

Rec 9.2 Require the dedication or reservation of park sites and trail easements during development review when these are considered appropriate by the Churchill County Parks and Recreation Commission, and when consistent with adopted plans for the area.

Rec 9.3 Churchill County will utilize the Parks and Recreation Facilities Plan as a guide to determine where new regional parks; special use facilities, including multi-purpose recreational trails; and open space should be located. The TRACC Plan and the County's Open Space Plan will also be utilized for guidance with the development of recreational facilities.

Rec 9.4 Churchill County will have authority for the planning and design of all public recreational facilities.

Rec. 9.4.1 New parks and recreation facilities will be developed consistent with the demand of new growth and development.

Rec. 9.4.1 Churchill County discourages the use of small neighborhood parks. Such facilities may be compatible if maintained by and for a homeowners association.

Rec. 9.4.2 All park and recreation facilities will be developed with the minimum guidelines established in this plan.

Rec. 9.4.3 New development may be required to set aside lands and participate in the development of parks.

Rec 9.5 Expand Fairgrounds Complex to enhance existing functions and provide new facilities.

Rec. 9.5.1 Prepare a master plan for the fairgrounds including needed expansions of the facilities to accommodate increased use and demands for more

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recreational facilities.

Rec. 9.5.2 Maintain adequate buffers between community and regional park facilities and existing land uses. Discourage/prohibit non-compatible residential development adjacent to the fair grounds complex.

Rec. 9.5.3 Acquire additional lands adjacent to the fairgrounds complex for future development and expansion of the site.

Rec. 9.5.4 Prepare feasibility study for indoor events/recreation complex at the fairgrounds.

Rec. 9.5.5 Limit public access and use of Miners Road. Use of Miners Road shall be limited to fairground complex users and existing residents. Access and use of Miners shall be closed to through traffic to minimize conflicts with fairground and recreation facility users.

Rec 9.6 Implement Trails System Development in accordance with TRACC Master Plan.

Rec. 9.6.1 Following AASHTO guidelines for bicycle and pedestrian facilities, establish and expand a trail system that links parks, schools, open areas, and shopping areas to neighborhoods and encourage and support recreation and alternate forms of transportation. Where possible take advantage of water features, canals, drains, reservoirs and lakes. Establish Equestrian Trailheads and, where practical, equestrian trails that provide access to open space, water sources and historic trails. Include in the trail system walking paths, bike routes, mountain bike trails, and separated paved bike paths to accommodate all potential users.

Rec. 9.6.2 Continue to implement TRACC Master Plan recommendations as funding becomes available.

Rec. 9.6.3 Implement the northwest bicycle path system identified in the Recreational Facilities Plan. Work with local land owners and proposed residential developments to obtain appropriate easements for trails.

Rec. 9.6.4 Work with TCID to identify ditches and canals that may be appropriate for trail use.

Rec. 9.6.5 Churchill County Parks and Recreation shall utilize the adopted Recreation Facilities Plan maps.

Rec. 9.7 Develop a phased regional trail system with access from major population areas and access to regional parks, special use facilities, and public lands.

Rec. 9.8 Churchill County Parks and Recreation shall plan to connect existing and planned urban bike lanes and paths with the regional trail system identified in TRACC and the with the northwest trail system.

Rec. 9.9 The Churchill County Park Construction Tax District Boundaries (adopted through passage of Bill 2005-L Ordinance 65 in June 2005) designates Churchill County as a single district and service area. Every two years, based on growth and development projections, the Churchill County Parks and Recreation Commission will provide recommendations to the County Commission for the establishment of additional districts and service areas. Any newly established district shall be used to delineate community parks acquisition and development of expenditures in park construction tax monies.

Rec. 9.10 Churchill County Parks and Recreation will work with private, state, and federal agencies to ensure coordination and exchange of current information for recreation planning efforts in Churchill County.

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Rec. 9.11 Identify and acquire lands which should be preserved for regional parks, special use facilities, and open space purposes.

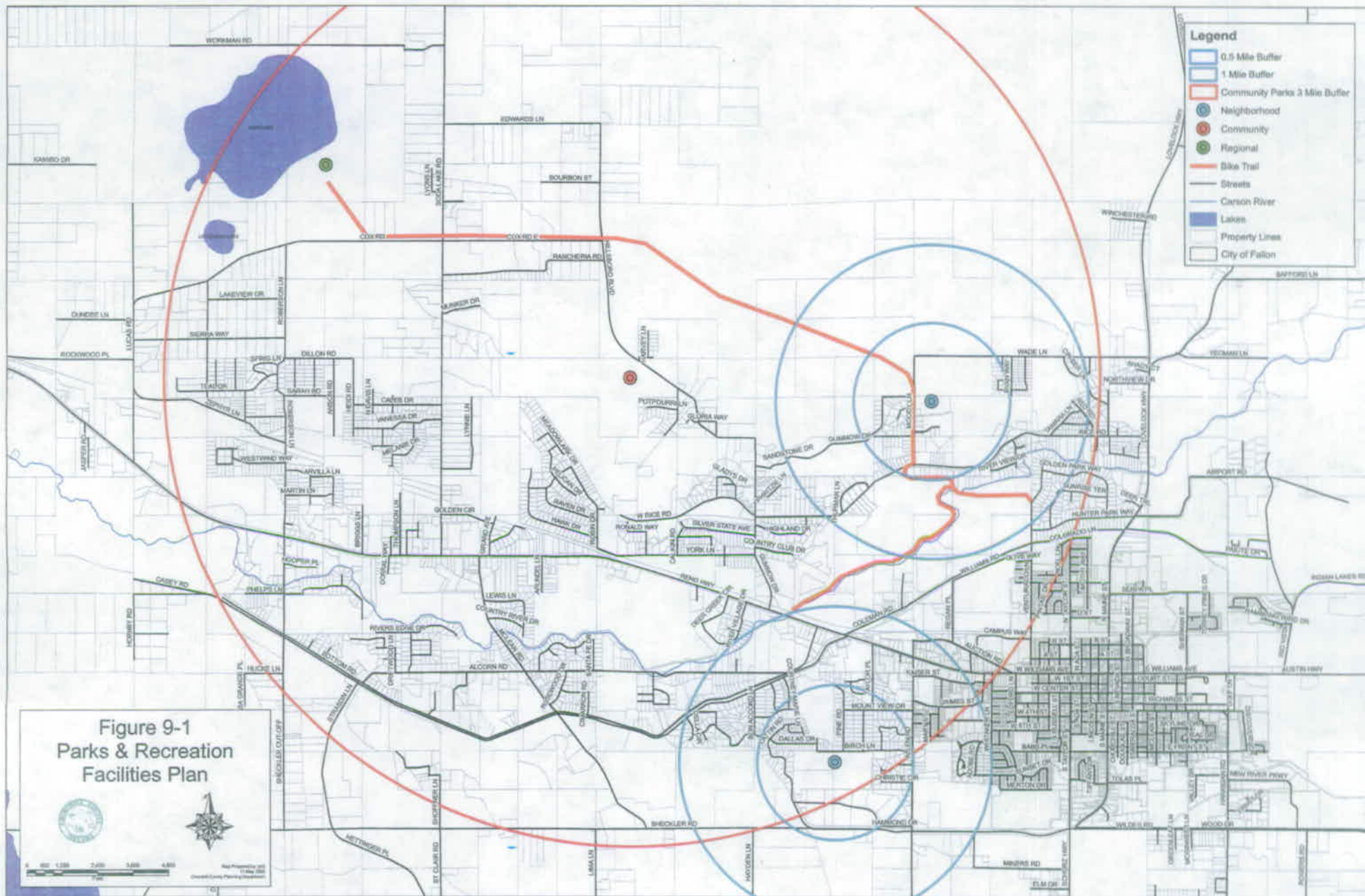
Rec. 9.12 Investigate financial aid programs for development of open space and recreation.

Rec. 9.13 Provide lighting to expand use of existing fields.

Rec. 9.14 Encourage private enterprise in the field of recreation.

Rec. 9.15 Overcrowding of existing parks has increased maintenance and degraded the quality of some facilities. It is recommended that funds for maintenance be increased and that the fiscal resources for maintaining future facilities be earmarked as acquisitions proceed.

Rec. 9.16 Support the development of recreational facilities, access and use of the Carson River corridor.



### GOALS

- Goal 1. Develop a transportation system that accurately reflects community needs, values, desires, and goals; is consistent with other plans and policies; and helps to shape the future development of the community.
- Goal 2. Develop a transportation system that is safe, efficient and effective, and that also maximizes the benefits for the costs.
- Goal 3. Maximize the functional integrity of the transportation system.
- Goal 4. Identify deficiencies and needs in the transportation system and to identify appropriate improvements.

### Plan Purposes

The purpose of this Transportation Plan is to provide guidance for the development of transportation improvements in Churchill County through 2020. First and foremost, this is a plan; i.e., it represents the best, current thinking and forecasting of future transportation needs and solutions. However, in order to be effective over time, this plan must evolve and be flexible to changes in the community.

The best planning and the best plans involve an ongoing, dynamic process that allows choice, accommodates change, and responds to growth and the development of the community.

The plan is not a commitment or promise to implement any of the recommendations. This plan identifies recommended transportation improvements and provides justification for the expenditure of funds from various sources. But future implementation of any plan recommendations will be based on periodic review

and decision-making, and on the availability of federal, state and local funding specifically approved and committed in a timely manner by the appropriate public officials. Ideally, this plan will be updated periodically to ensure that it is responsive to the transportation needs of Churchill County.

The purposes of this Plan are:

- 1). To analyze the transportation system, including the roadway network, transit and paratransit services, pedestrian/bikeway facilities, airport facilities and the freight movement system including trucking and rail;
- 2). To identify future travel demand and transportation needs for the year 2000 to 2020 timeframe;
- 3). To evaluate alternative transportation improvements;
- 4). To recommend short-range and long-range transportation system improvements;

The intent is to develop the most appropriate long-range (Year 2020) transportation plan, given expected growth and development patterns, as well as desired travel patterns.

This Transportation Plan is not intended to address all of the small-scale transportation issues such as pothole problems, snowplowing, sign placement, speed limits, bus schedules, etc. This plan also does not dictate project priorities for implementation, but rather, provides input to the annual process of developing the Capital Improvement Plan (CIP).

The recommendations and proposed activities in this transportation element are driven largely by the *Fallon Urban Area 2020 Transportation Plan*. This Plan, completed in January 2000, was adopted by the Planning Commission in 2000. More specific information about individual plan elements can be found in the 2020 Transportation Plan.



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The Transportation Plan contains four principal elements: 1) public transportation element, 2) pedestrian and bicycle element, 3) airport and freight movement, and 4) street and highway element.

### Public Transportation Element

#### Existing Public Transportation Services

The Churchill Area Regional Transit (CART) operates a public fixed route transit services within the Fallon urban area. CART is a non-profit transportation provider that uses vehicles supplied by the Nevada Department of Transportation (NDOT) through the Federal Transit Administration (FTA), Section 5310 program. There is one private, for-profit taxi company – **A-1 Services** – providing service for the general public. The **Churchill County Unified School District** provides transportation for elementary, middle and high school students with 47 buses and a wheelchair accessible van. Approximately 70% of the total 4,500-student population, or 3,150 students, are bused each day. The **Nugget/Bonanza Casino** provides casino shuttle services with a 12-passenger van and a 40-passenger bus. The **Stockman Casino** has a 12-passenger van for shuttling military personnel between the Fallon Naval Air Station and the casinos. These private, for-profit companies operate their vans independently. The key public transportation services in the County are several demand-responsive paratransit services including **CART**, the **Churchill County Department of Parks and Recreation**, **Fallon Industries**, the **Veterans Administration**, the **Paiute-Shoshone tribe**, and **Fallon Naval Air Station**. The **PRIDE System** is made possible through the cooperative efforts of the North West Nevada Regional Transit Coalition, its member counties and NDOT. Bus service is provided 7 days a week from Fallon to locations on the Highway 50 corridor to Carson City. Bus service is also provided between Fallon and Fernley. Future system expansion will provide service from Fallon to Reno. The Fallon to Reno service was scheduled to begin Fall 2002, but has been postponed until 2003.

The paratransit services currently operating in Churchill

County are summarized in the following table:

**Table 10-1 Fallon Urban Area  
Existing Paratransit Services**

Agency	Clientele	Days/Hours of Service	Average Pass. Trips per Month	Vehicles
CART	Elderly, Disabled, General Public	Mon.-Fri	850 (incl. Trips to/from Reno). Approx. 3,000 riders per month	8-13 pass. Buses
Fallon Industries	14 Disabled persons- Provided by CART	Mon. – Fri. AM and PM work trips	600	See CART
Churchill County Dept. of Parks & Recreation	General Public; students	As needed	20 (special events only)	40-pass.bus
Veterans Admin. Hospital	Vet. Patients	3-days per week	200 (trips to/from Reno)	10-pass. Van
Paiute-Shoshone Tribe	Colony and reservation residents	As needed	500 (incl. Out-of-area trips)	5 vans, incl. One accessible
Fallon Naval Air Station	FNAS personnel	As needed	200	Bus, van & cars
PRIDE	General Public	7 days a week	8 per day	Bus Service

### Recommended Service Plan

The **Churchill County Task Force on Transportation** is a group of persons representing a wide variety of citizens and agencies concerned about transportation for persons with little or no transportation facilities or service including the elderly and disabled in Churchill County as well as other members of the general public. The Task Force initiated a survey and study of needs in January 1999. The survey and study concluded that there is need for public transportation in Churchill County to serve the needs of those without other means of transportation for a wide variety of trip purposes.

The Task Force has developed a coordinated, demand-response system for the city of Fallon and a 13-mile radius from the center of Fallon the system is called **Churchill Area Regional Transit (CART)**, and provides, a 24-hour advance notice, dial-a-ride service to the community. The service operates from 7:00 AM to 7:00 PM, Monday through Friday. In 2002 CART established a bus route service within the city limits, encompassing the most frequently used routes. This service runs non-stop from 9 am to 3 pm. As demand grows additional routes will be added to outer-lying areas. CART also provides senior citizen shuttle service for medical appointments outside Churchill County.

### Pedestrian & Bicycle Element

Pedestrian and bicycle facilities represent additional non-motorized modes of travel that offer alternatives to the single occupant automobile. This element of the 2020 Transportation Plan focuses on these two modes and the recommended improvements.

### Pedestrian Element

Improvement to pedestrian facilities should be targeted toward the safety and conveniences of the user. Amenities for pedestrians such as lights, benches, and adequate crosswalks with

associated warning signs can further encourage walking as a viable form of transportation.

Many parts of the City and County are limited in the availability of pedestrian facilities. A dedicated trail system is planned as illustrated in the TRACC (Trails Across Churchill County) program. It identifies key locations in the downtown central business district and, commercial areas along Williams Avenue. It also identifies a need to educate drivers about the fact that pedestrians have their right-of-way at crosswalks.

The goal for this Pedestrian Element is to allow safe and convenient movement by foot and wheelchair within the County to access schools, recreation facilities, and public facilities.

### Future Needs, Opportunities and Constraints

These needs can be separated into three categories:

1. Need to have pedestrian access into and out of neighborhoods;
2. Protect the safety of pedestrians in the school areas; and
3. Need to provide pedestrian facilities for all citizens.

### Pedestrian System Recommendations

Implementation of the pedestrian element is a long-term commitment to improving pedestrian mobility and access in the Fallon urbanized area. Ideally, pedestrian facilities will also be added to the system as part of new development. Additionally, it is probable that community funds need to be committed towards improving pedestrian facilities in developed areas. Before that can occur, however, City and County staff need to accomplish the following tasks:

1. Review sidewalk standards regarding width and timing of installation.
2. Review and improve coordination of multi-use trail crossings of roadways identified on the TRACC system.

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3. Conduct a comprehensive assessment of the current pedestrian network that evaluates existing facilities and identifies recommended improvements. Particular attention should be given to the areas around schools, parks and the high traffic areas.
4. Incorporate appropriate pedestrian crossing signs, striping, and signal buttons to facilitate the safe crossing.
5. Implement a process by which additional improvements can be constructed with available funds.
6. Develop design policies for pedestrian circulation and access in developing areas of the County consistent with established Federal and State design standards and regulations, including ADA requirements.

### Bicycle Element

#### Overview

The Bicycle Element of the Transportation Plan is based on the TRACC (Trails Across Churchill County) plan that identifies a multipurpose trail system within the County. Within the city limits, a potential network of bicycle routes was identified following a simple compatibility analysis. Development of the TRACC plan included public participation. Further public opinion was solicited during the public workshop held during the overall planning process.

The major areas of public concern related to bicycling in Churchill County are:

- Lack of continuous routes to major destinations.
- Major physical barriers (canals, US 50, US 95 and railroads).
- Conflicts with motor vehicles
- Need for additional trails and the completion of crucial trail links.
- Need to promote bicycling as a beneficial, legitimate form of alternative transportation.

#### Long Term Projects

- In the future, be prepared to discuss potential rail abandonment projects with railroad companies to identify opportunities for trail

projects as well as to investigate opportunities to permit trail easements on railroad property.

- Implement the TRACC program throughout the County.

The locations for recommended Bicycle Routes are shown in Figure 31 of the *Fallon Urban Area 2020 Transportation Plan*. The proposed locations of these trails are based primarily on engineering and planning expertise and judgment. The routes were chosen for connections to major attraction centers using the safest, most practical roadways.

#### Short Term Projects

- Create and install a signage and marking program to identify the bicycle system as well as alert motorists of the presence of bicyclists.
- Ensure all bicycle systems are consistent with the TRACC corridors and connections.
- Provide safe on-street routes along the State highways by removing portions of on-street parking or widening sections of the roadway to safely accommodate bicycles.
- Maintain the condition of the on-street routes on State Highways US 50 and US 95 to encourage new riders and provide safety for the existing users.

### Airport & Freight Movement Facilities

#### Airport Facilities/Roadway Access

Most area aviation activity occurs at the Fallon Naval Air Station (NAS) in the southeast section of the study area. This facility is exclusively for military use and allows no private or civilian air activity. Access to the NAS is provided from Pasture Road on the west edge of the facility, accessed via Union Land, Berney Road, and Wildes Road. A few minor access locations exist, however, these have secured gates and are not available to the general public. Wildes Road traverses the northern portion of the NAS as a connection to State Highway 50 (Austin Highway) on the eastern edge of the NAS. On the south, Macari Lane and Depp Road provide

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a southern route around the NAS and connect Highway 50 on the east to Highway 95 on the west.

The City of Fallon also maintains a general aviation facility in the northeast section of the City covering approximately 440 acres. This facility has no scheduled air service and currently can support most general aviation (GA) aircraft up to small business jets. There are approximately 11,000 annual flight operations for the airport. The primary runway, 3/21 is 5,703 feet in length with an asphalt surface. The secondary runway, 31/12 is 3,650 feet in length and constructed of graded dirt. There are no passenger facilities and only general use buildings for the businesses that operate in the vicinity of the airport.

Access to the Municipal Airport is accommodated by Rio Vista Way from State Highway 50 (Williams Avenue) on the south. Secondary access is provided to State Highway 95 via Airport Road. This access route travels through residential neighborhoods on the west. Additional traffic from future expanded airport operations will need to be investigated to determine any adverse impacts to this access route.

Future travel demand for passenger or freight air service is not currently projected for this facility. The Carson River on the northwest and the 225-foot hill on the southeast limit any potential expansion of the airport. The existing land area of the airport property could accommodate expansion of the existing businesses at the airport. The adjacent property could be used to establish an industrial or light-manufacturing center to serve the Fallon area. A parcel of land located at the intersection of Wildes and Harrigan has been developed as a manufacturing complex that may satisfy the potential function of an expanded airport-manufacturing center.

The Fallon Municipal Airport is a general aviation facility located in the northeast area of the city. This facility has no scheduled area service and can support most general aviation aircraft up to small business jets. There are approximately 11,000 annual flight operations at the airport. Currently there is no air freight-cargo service and none is planned for the facility.

### Freight Movement Services & Facilities

This transportation plan addresses the movement of people and goods, both of which are very important to the overall economic condition of the area. The Fallon Urban Area is a significant hub for freight movement with its location at the crossroads of US highway 95 and US Highway 50. These two routes carry the majority of truck traffic to/from and through the city, with some segments carrying more than 1,200 trucks per day (more than 8,000 tons per day), which represents as much as 27% of the average daily traffic (ADT). Typically, trucks represent 9-12% of total traffic. Food is the commodity with the highest truck tonnage through the area, followed by lumber and wood products, petroleum and coal products, farm products, metal products and general freight. Currently, there are no COFC or TOFC intermodal (e.g., truck/rail transfer) facilities in the Fallon Urban Area. However, transfers of an intermodal nature occur in the yard just east of the county offices where materials are transferred from trucks directly to railcars. Also there are some sites along the tracks where grain products are conveyed directly from trucks to gondolas.

There also is an average daily volume of about 30 hazardous materials shipments by truck through the Fallon Urban Area. The hazardous materials include a wide variety of flammable liquids, gases, explosives, and poisonous materials, but very little radioactive material. A study in 1993 identified several alternative routes for movement of these hazardous materials. That study is currently being updated in concert with development of this transportation plan, as part of the assessment of further transportation network alternatives, to identify a preferred route for the transport of freight and other materials around the heavily developed portion of Fallon.

A Union Pacific/Southern Pacific (UPSP) mainline that crosses the northwest corner of Churchill County, with a 15.9-mile branch line that extends from the mainline at Hazen to Fallon, provides rail transportation. A north-south USPS mainline also extends south from Hazen to Hawthorne. A number of industries located in Fallon are served by the railroad branch line as well as

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Premier Refractories, a mining operation in Gabbs, but the volume of trains is very limited. Additionally, there are minor agricultural shipments and occasional equipment shipments to the Fallon Naval Air Station. **Additional study of potential increased railroad usage is recommended in order to evaluate economic development opportunities that will attract new industries to the Fallon area, additional industrial spur tracks to serve new customers, possible freight intermodal facilities, and other railroad improvements.**

There are ten at-grade crossings of the railroad tracks by local streets in the Fallon urban area. All at-grade crossing will be signalized by 2005.

Two major pipelines also serve the Fallon area. A southwestern Gas transmission line flows adjacent to US 50 west of Fallon and traverses southwesterly around the Fallon city limits. A pipeline carrying jet fuel to the Fallon Naval Air Station is within the railroad right-of-way from Sparks to the Fallon yard where it continues south to the FNAS.

In summary, the largest current freight movement facilities and services are trucks that transport various goods and freight through the Fallon Urban Area. The impacts of these freight movements and alternative improvements are addressed in other studies and reports.

### Streets & Highways

#### Level of Service & System Deficiencies Analysis

The transportation system in Churchill County was assessed to determine the current operating characteristics (level of service) and was also examined for system deficiencies. The system was examined from the perspective of roadway capacity, intersection capacity, ability to handle both general vehicle and truck vehicle traffic and general circulation.

A capacity analysis was performed for the 1998 roadway network and counted street volumes. Based on the volume-to-capacity ratio analysis, there are a few roadway segments that have capacity deficiencies under observed traffic volumes, but specific characteristics of roadway traffic may create conditions that are unacceptable to the motoring public including side street delay, inability to maneuver, hindered travel speeds and roadway ingress/egress. Based on analysis of current traffic conditions, interviews with City and County staff and input from the general public, the following roadways were found to operate under less-than-desirable conditions of congestion:

- US 50 – from approximately the canal to US 95/Maine Street intersection in the downtown area;
- US 95 – from Front Street on the north to St. Clair Road on the south away from the business district; and
- Wildes Road – from Maine Street to Pasture Road.

Travel demand is forecast to increase in the future. Travel demand can be thought of as the desire to move from one location to another. For travel within the urbanized area, desire line maps can graphically represent travel desire. These maps show, with line thickness, the volume of vehicle travel from one area to another. Chart 2 illustrates the travel desire projected to occur within the study area by the year 2020. In the future, these segments of congestion expand to also include US 50 east of Maine Street, Maine Street itself, and Taylor Street south of US 50. Sheckler Road west of Taylor will also have congestion in the future.

#### System Deficiencies and Potential Solution Alternatives

The transportation system deficiencies are summarized below, based on analysis and modeling, interviews with City and County staff and maintenance personnel, as well as input from the general public which were utilized to formulate the list of issue areas.

- Congestion on access routes to NAS Fallon:

## 10. TRANSPORTATION

- Intersection Safety along Wildes Road;
- Sheckler/Taylor/Main/Wildes intersection;
- Wildes Road/Pasture Road intersection congestion & safety;
- Wildes Road/Harrigan Road intersection congestion & safety;

Williams Avenue/Dolf Lane geometry & safety;

- Dolf Lane/Stillwater Avenue intersection geometry;
- Williams Avenue/Taylor street geometry & safety
- Williams Avenue/Maine street geometry & safety
- Pedestrian safety and traffic congestion at Sheckler/Maine/Taylor/Wildes intersection (school related);
- Railroad crossing at York Lane;
- Maintenance of roadways;
- Multiple jurisdiction maintenance; geometric deficiencies for truck travel;
- Sheckler- road truck traffic'
- Congestion on Williams Avenue;

### Improvement Alternatives Development and Analysis

Based on the existing and expected system deficiencies, various improvement alternatives were developed. Alternatives were developed to alleviate current and expected congestion, improve circulation, decrease accident experience and improve both regional and community mobility. Many individual system improvement alternatives were developed for testing (by the travel demand model) and further evaluation. Improvement project alternatives that address these deficiency locations are illustrated in Tables 7 and 8 of the *Fallon Urban Area 2020 Transportation Plan*. Included in the system evaluation was testing of a "bypass" facility for truck and other through traffic, illustrated in Figure 25 of the *Fallon Urban Area 2020 Transportation Plan*. A bypass facility is currently being evaluated under a separate study as a solution for transport of hazardous materials and was also evaluated, as part of this study to assess it's utility to address local transportation system deficiencies.

Improvement alternatives were ranked by the project study team members based on expected benefits (that is, the ability to solve the identified problems/deficiencies, and perceived abilities to

address local transportation system deficiencies.

Improvement alternatives were ranked by the project study team members based on their expected benefit (that is, their ability to solve the identified problems/deficiencies, and their perceived ability to meet plan goals and objectives related to key issues), as well as their associated cost. Benefits were considered in the areas of:

1. Current Congestions
2. Future Congestion
3. High Accident Locations
4. Regional Mobility
5. Community mobility
6. Non-motorized Mobility
7. Pedestrian Safety

The project alternative rankings serve as a guide to County staff as well as Nevada Department of Transportation (NDOT) staff and elected officials when making decisions about applying local funds to address deficiencies, or when applying for state or federal money for solutions. This ranking also serves as a strong basis for project priorities for inclusion in a fiscally constrained plan.

### Selection/Prioritization of Long Range Street & Highway Improvements

Table 7 of the *Fallon Urban Area 2020 Transportation Plan* provides the "illustrative list" of potential long-range street and highway improvement projects that could be considered to meet future travel needs in the Fallon Urban Area. This list includes all of the possible projects that could support future travel demand, for 20 years and beyond. The table also contains planning level cost estimates for the long-range project alternatives. The total cost range of \$30M to \$67M far exceeds the available funding over the next 20 years.

The deficiencies addressed by the various alternatives are also shown in the above-referenced Table 7. The combination of benefit areas achieved and priority ranking was used to "score" the projects.

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Benefits achieved were "weighted" to arrive at the score for each solution alternative. That is, benefits in some categories were given greater importance than benefits in other categories.

The solution alternatives shown in the above-referenced Table 7 with the highest scores represent the preferred solution to each of the deficiencies identified.

The project scores shown in Table 10-1 can serve as a guide to County staff as well as NDOT staff and elected officials when making decisions about applying local funds to address deficiencies, or when applying for state or federal money for solutions. This listing serves as a strong basis for project priorities for inclusion in a fiscally constrained plan. With limited available funding for capital projects, implementation of plan projects will be severely constrained.

All of the roadways may be classified by type, called a "Functional Classification." Functional classification is a system by which streets and roadways may be distinguished by types according to the functions they serve within the entire transportation network. A four-level classification system is typically used to designate major streets as Freeway, Principal Arterial, Minor Arterial, or Collector types. A fifth level, Local Streets, is also recognized, but is not the primary subject of transportation planning. A functional classification system has not been applied to the Fallon street system in the past.

Functional classification considers the type and distance of travel served by the roadway, as well as the land access function. Urban area streets contain a varied mix of the various functional classifications, and not all street elements adhere strictly to their assigned, or intended functional classification. The three major levels of functional classification considered in the context of this plan are Freeways, Arterial Streets, and Collector Streets. Arterial Streets are further sub-divided into Principle and Minor Arterial classes. It should be noted that the Functional Classifications used are for purposes consistent with federal funding distributions. General descriptions of

the different functional classifications are provided below:

### Freeways

Freeways serve high speed, long distance travel movements and provide little access to adjacent lands. Often included within the arterial classification, freeways are unique in that they typically have no at-grade intersections, instead utilizing grade-separated interchanges with directional ramps to serve entering and exiting traffic. Access to freeways is strictly controlled and regulated. Without at-grade intersections to impede traffic flow, freeways have significantly higher carrying capacity than arterial streets. No freeway facilities exist within the Fallon urban area.

### Principal Arterial Streets

Intended to provide a high level of mobility, arterial streets favor mobility functions over land access functions. Higher speeds, long distance continuity, and higher levels of service combine to efficiently serve longer distance trips. To maintain system speed and level of service, access management is critical to preserve throughput capacity and roadway safety. Arterial streets provide connections to both higher-class roadways (freeways) and lower classifications (collector streets).

### Minor Arterial Streets

Similar to Principle Arterial streets, Minor Arterial Streets are intended to favor mobility over land access, and carry traffic over longer distances. Distinguished by lower capacity and operating speeds, Minor Arterial streets typically have shorter continuity than Principal Arterial streets, and may serve land access to a greater degree.

### Rural Major Collector Streets

Rural Major Collector streets, as the name implies, collect traffic from primary access roads (local streets), and carry it to arterial streets for longer distance travel. The "rural" designation indicates they lie outside urban or city limits. They are the link between the local land access system and the arterial street network, although also serve a significant access function in the rural

environments. Collector streets should not have the long distance continuity of arterial streets. Ideally, Collector Streets should provide access into, but not through residential neighborhoods, for long distance continuity attracts long distance, high-speed traffic not appropriate on collector facilities.

### Urban or Rural Minor Collector

Minor Collector streets, as the name implies, collect traffic from local streets, and carry it to arterial streets for longer distance travel in either the urban or rural environment. They are the link between the local land access system and the arterial street network. Minor Collector streets should not have the long distance continuity of arterial streets, particularly in an urban environment. Ideally, Collector streets should provide access into, but not through residential neighborhoods, since long distance continuity attracts long distance, high-speed traffic not appropriate on collector facilities.

The functional classification of existing streets in the Fallon Area needs to be appropriate considering current use and anticipated future needs. The functional classification can serve a valuable planning function for securing right-of-way and physical improvements from development adjacent to existing and planned facilities, and serves as a guide for community development around a well planned transportation system. The functional classification system used for this plan is compatible with the system utilized by the Nevada Department of Transportation and reflects current NDOT functional classifications for the study area.

For the most part, collector facilities were not shown within fringe, undeveloped areas. The actual location of collector facilities in undeveloped areas should remain somewhat flexible to best serve the specific needs of neighborhoods under specific development proposals. Several guidelines should, however, be observed when planning collector facilities:

- Long distance continuity should be avoided, with continuity less than 2 two miles.

- Collectors should intersect arterial streets such that uniform spacing of intersections is maintained at approximately one-fourth mile intervals on an arterial street for good signal progression and flow capacity.
- Residential direct access frontage should be avoided or limited on collector streets.

Based on the recommended long-range street and highway improvements developed during this planning process, Chart 3 and 4 are the Functional Classification maps for the Fallon Urban Area, showing arterial and collector classifications. Streets not shown as collector or arterial streets on the plan are classified as local streets. The figure indicates functional classifications for roadways that exist, or are anticipated to exist in the near future, as well as corridors not yet fully planned or engineered. Transportation corridors are designated which will realistically not develop within the 20-year planning horizon of this study. It is imperative, however, that corridors be preserved now for future use. Experience has taught us that if future corridors are not preserved and actively planned, usefulness of the corridors tends to be degraded by development, or development may render the transportation use itself undesirable.

Churchill County undertook efforts in 2005 to determine major improvements to the transportation system to accommodate growth in the urbanizing area of the County. The study (Fallon Area Transportation Study, June 2005 prepared by Lumos & Associates and adopted by Churchill County on June 15<sup>th</sup>, 2005) identifies new roadways, road alignments and road and intersection improvements necessary to accommodate the increased traffic resulting from new growth. Map 10-3 identifies the adopted plan identifying needed improvements. The analysis and resulting costs associated with these improvements form the basis of the Capital Improvement Plan for road system improvements and expansion and must be implemented as developments are approved through the collection of impact fees or developer constructed roadways.

### **Transportation System Management (TSM) Strategies**

In addition to the major long-range street and highway



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projects, there are numerous smaller projects that would improve operation of the street and highway network and reduce travel delay. Generally, these are referred to as Transportation System Management (TSM) strategies that represent low-cost opportunities to better manage and operate the existing transportation infrastructure of the near-term future. They include traffic signal coordination and upgrades, intersection improvements, access control, operational changes, etc. Table 8 of the *Fallon Urban Area 2020 Transportation Plan* illustrates the short-range/TSM developed as part of this Transportation Plan. Short-range projects and TSM elements with this plan update total \$800,000 of improvements that will optimize the transportation system in the Fallon urban area over the next 10 years.

### Travel Demand Management (TDM) Strategies

There is a wide range of no- or low-cost strategies available to Churchill County to manage travel demand and potentially to reduce the number of vehicle trips made on a daily basis. The TDM strategies recommended for consideration include:

1. Alternate Work Hours/Schedules
  - Staggered hours/compressed work week
  - Flex-time
  - Telecommuting
2. Bike & Pedestrian Programs
  - Sidewalk continuity
  - Bike loaner programs
  - Lockers/racks
  - Trails/bike lanes--on-street and off-street
3. Employer-sponsored Programs
  - Guaranteed ride home for emergencies
  - Subsidy of Transit usage
4. Parking Management
  - Close-in/preferential parking w/shuttles, carpools or vanpools
5. Regional Ridesharing
  - Carpool matching/formation
  - Vanpool services

6. Urban Design/Land Use Planning
  - Urban Design/Land Use Planning
  - Mixed-use development
  - Transit/pedestrian-oriented design

Churchill County may consider implementing a TDM program incorporating the specific strategies listed above to help reduce travel demand, particularly automobile traffic on the roadway network, and to improve air quality and the overall quality of life in Fallon. These programs are recommended and would be available on a voluntary basis; the potential reduction in trip making could be 2-5% depending on the level of participation. Some strategies, such as flextime, would lengthen the peak travel period and thereby reduce the impact of the traffic volumes during those peak periods.

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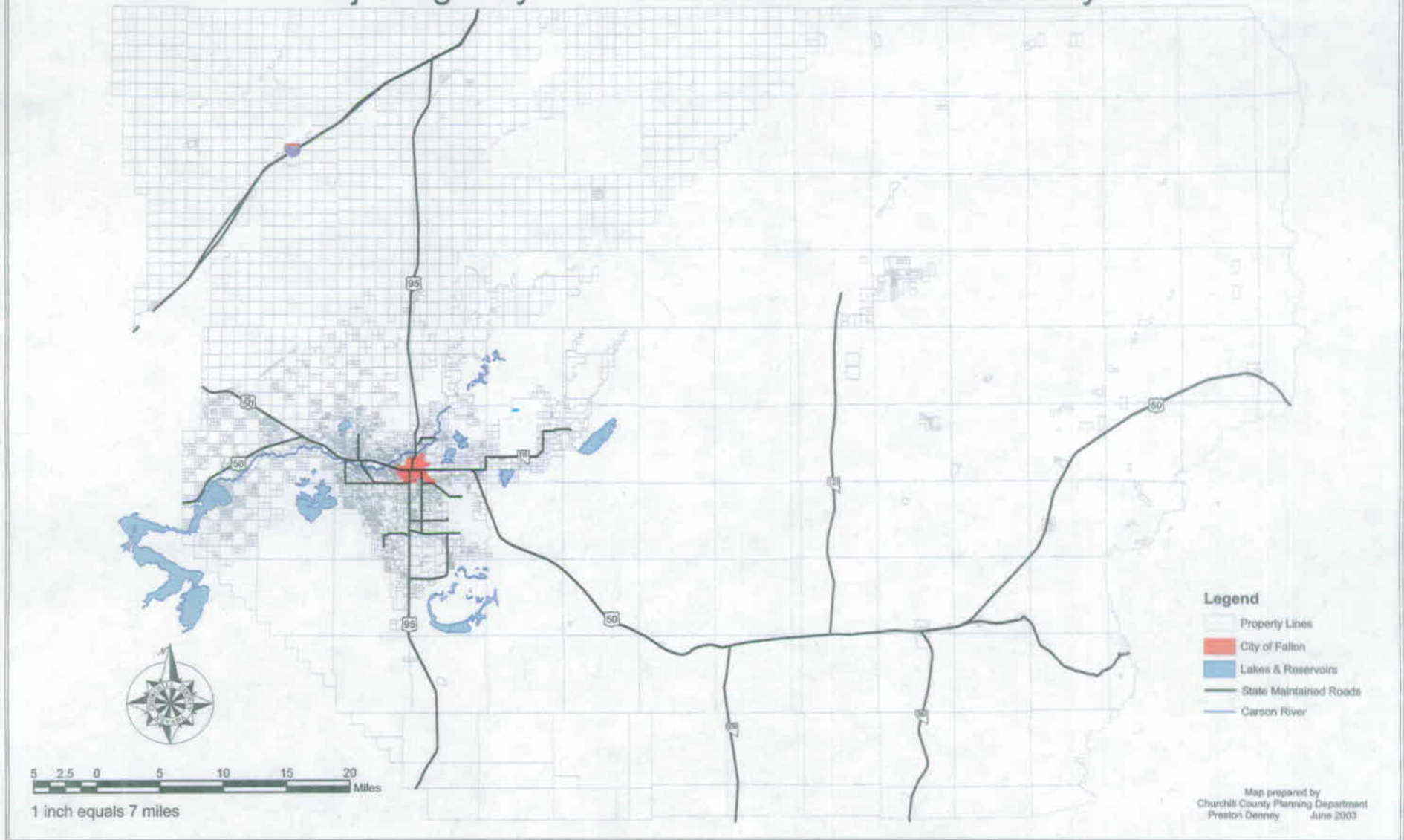
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- OBJECTIVES:**
1. Implement the plan with Fallon, NDOT, and DOE of the designated route, which bypasses Fallon and other high-density areas, for vehicles transporting hazardous materials.
  2. Utilize State and Federal programs to improve the County's transportation system; including highway, airport, and rail systems.
  3. Preserve adequate land and airspace for future airport needs.
  4. Encourage the Naval Air Station Fallon and other industrial and commercial enterprises to use the rail service.

- REFERENCES:**
1. State of Nevada, Department of Transportation.
  2. "Mina Rail Option Review", dated January 1995, prepared by Churchill County Yucca Mountain Oversight and Monitoring Program.
  3. "Churchill County Hazardous Materials Transportation Route", dated November 1993, prepared by Lumos and Associates, Inc. (Available from Churchill County Planning Department).
  4. "Fallon Urban Area 2020 Transportation Plan", dated September 1999, prepared by TranSystems Corporation. (Available from Churchill County Planning Department).

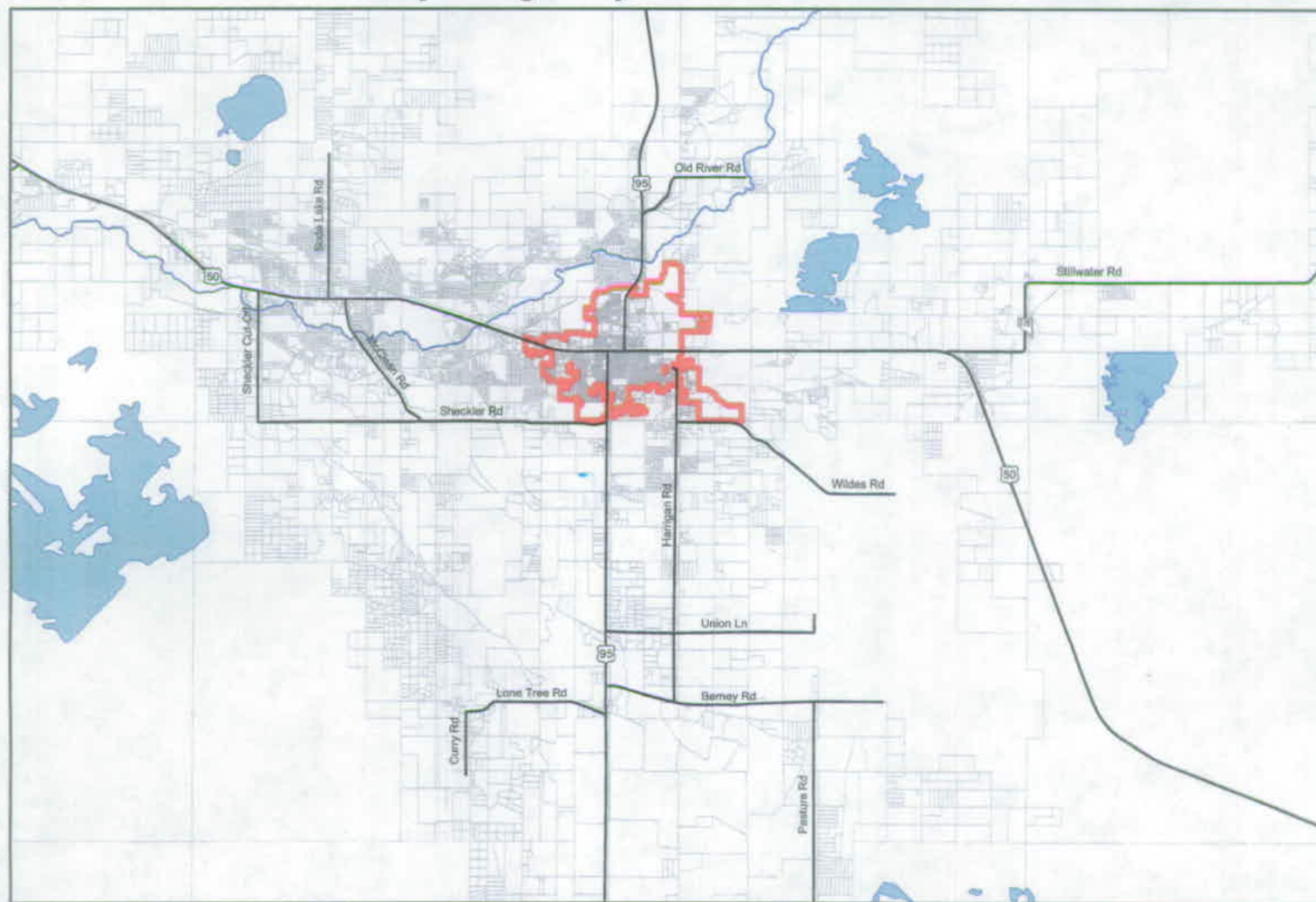
# Major Highways and Streets within Churchill County

Map 10-1



# Major Highways and Streets within Fallon Area

Map 10-2

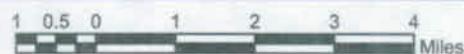


## Legend

- Property Lines
- City of Fallon
- Lakes & Reservoirs
- State Maintained Roads
- Carson River

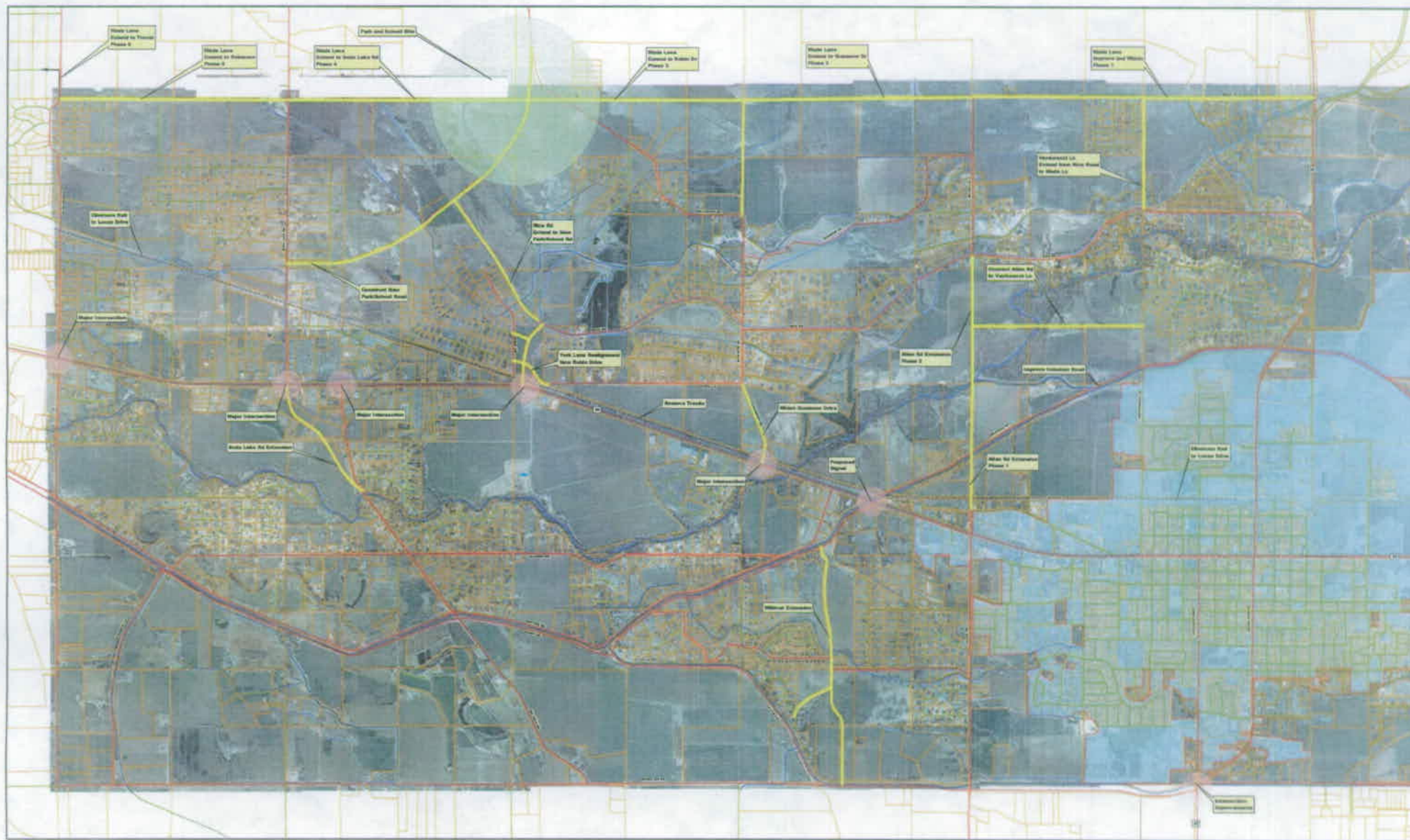


Map prepared by  
Churchill County Planning Department  
Preston Danney June 2003



1 inch equals 1.5 miles





Map 10-3  
Churchill County, Nevada  
Fallon Area Transportation Study  
Adopted into the Churchill County Master Plan July 2005

**Legend**

- City Limits
- Parcels
- State Highways
- Major Streets
- County Street Classifications
- Water Features
- Canals and Channels



## 11. PUBLIC SERVICES AND FACILITIES

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### GOALS:

1. Public services and facilities that support development and improve the overall quality of life.
2. A water utility to provide municipal water and wastewater facilities and services.
3. Protect and preserve the water rights and water supply in Churchill County.
4. Protect important groundwater recharge mechanisms.
5. Provide adequate public services and facilities commensurate with future needs in Churchill County.

## 11. PUBLIC SERVICES AND FACILITIES

### WATER RESOURCES

Adequate and sufficient availability of quality water is vital to the health and well-being of Churchill County. Long-term growth and development for the County depends on adequate control of water resources in Churchill County. The issues can be divided into three categories:

1. Control of surface and ground water resources,
2. Development of a long-term domestic water supply.
3. Management of surface and ground water.
4. Protection of private property rights and interests in water resources .

These issues are varied, complex, and interdependent. The ability to address these issues will require significant commitment of resources. In recent years, Churchill County and the City of Fallon have worked closely on many water related issues. Future collaboration between the County and City is critical to achieving region wide goals for water resources.

### SURFACE WATER

The sources of surface water to the Carson Desert and western Churchill County, are direct precipitation, Carson River inflow, importation from the Truckee River, and Humboldt River inflow. Surface water is the necessary and sole source for irrigation of farmlands, recharging the aquifers that provide domestic water supplies, and maintaining the wetlands at Carson Lake, Stillwater and Fallon Wildlife areas.

Water sources and quantity estimates are taken from USGS 93-463 unless otherwise noted. Effective precipitation for the area was estimated to be 20,000 acre-feet on irrigated lands and 20 - 21,000 acre-feet at the wetland areas near Carson Lake, Stillwater Wildlife Management Area and the Carson Sink. Inflow from the Humboldt

River was estimated (Glancy and Katzer, 1975) at 2,600 acre-feet. Total flow from the Carson River above Lahontan Reservoir averaged about 266,000-acre ft/yr. Between 1982 and 1999 diversions through the Truckee Canal averaged about 134,000 acre-feet. The most important contributor to the water supply system is the combined flow from the Truckee and Carson Rivers. About 95 percent of groundwater recharge is provided by Newlands Project surface irrigation system. This level of water supply is necessary for the maintenance of the community's agricultural industry and domestic water quantity and quality.

Early settlers to the western Churchill County area received the entire natural inflow of the Carson River. The Newlands Project, an irrigation project authorized by the Secretary of the Interior under the Federal Reclamation Act of 1902, was initiated in 1903. Work began on the construction of a system of dams and canals to control and divert the flows of the Truckee and Carson Rivers into Lahontan Dam, the main storage facility for the project. This system was completed in 1915 and comprises of two storage reservoirs, two major diversion dams, and approximately 375 miles of canals, laterals, and sublaterals.

The Truckee-Carson Irrigation District (TCID) has operated and maintained the Newlands Federal Reclamation Project pursuant to contract with the United States. The Newlands Project originally was intended to consist of 232,800 acres of land however just over 73,000 acres have been irrigated. The irrigated acreage base in the Newlands Project has declined from about 73,000 water righted acres within the project to about 63,000 primarily due to federal activities to acquire water rights, impose regulatory constraints to water use, and attempts to reduce water available for diversion to the Newlands Project.

The Final Draft Churchill County Water Resource Plan provides a comprehensive overview of surface and groundwater resources. The Water Resources Plan provides the basis for many of the recommendations of the Master Plan.

## 11. PUBLIC SERVICES AND FACILITIES

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### GROUNDWATER

Groundwater recharge resulting directly from precipitation (rain and snow) within the Carson Desert Basin (Lahontan Valley) is estimated at about 1,300 acre-feet per year. The estimated ground water recharge resulting from infiltration of Newlands Project irrigation water is 70,000 acre-feet (Maurer, 1994). Due to the uncertainty surrounding future Project diversions and the proposed wetland buy-outs and their effect on ground water recharge, the State Engineer in August of 1995 curtailed (Order No 1116) further development of ground water in the Lahontan Valley except for small, quasi-municipal wells pumping 4,000 gallons per day or less. This order has essentially curtailed further large-scale quasi-municipal or commercial development within the Lahontan Valley.

Dixie Valley located approximately 35 miles to the east of Fallon provides another important groundwater resource. Dixie Valley has an estimated perennial ground water yield on the order of 40,000 to 50,000 acre-feet annually. Currently, the U.S. Navy holds about 14,000 acre-feet of permitted and certificated ground water rights in the southern portion of the Valley. Churchill County has pending applications of 56,472 acre-feet of ground water in the Valley. There is an on-going effort between the U.S. Navy and Churchill County to combine these ground water resources for the development of a community water system whereby all entities in Lahontan Valley can be served. The Water Resources Plan identifies Dixie Valley as a critical long-term water supply alternative for Lahontan Valley.

### WATER AND WASTEWATER SYSTEMS

#### Domestic Water Supply

Projections in the Water Resources Plan indicate that the population of Churchill County could reach 53,660 by 2025 requiring about 21,531 acre-feet per year. With very real concerns regarding the quality of domestic water being provided from groundwater wells, including the basalt aquifer wells, it is timely to begin implementation of

alternative methods of domestic water delivery and control for the community at large.

Water supply alternatives considered in the Water Resources Plan includes:

- Historic Groundwater Development
- Conjunctive Surface and Groundwater Development
- Induction Well Development
- Lahontan Reservoir
- Recharge, Storage, and Recovery Development
- Dixie Valley Groundwater Importation.

Federal actions in water diversions and operating criteria are impacting the recharging of the aquifers causing this degradation of domestic water supply and creating the necessity of an alternative system. In addition, federal regulations relating to safe drinking water continue to require more stringent controls of public community and non-community water sources.

Water system development will occur in areas currently zoned for higher density residential developments and commercial activity largely found to the west of the City of Fallon. Service areas will, in most cases, correspond to future development and services required for existing residential and commercial areas. Inherent in the domestic water system design are the following requirements:

- Determination of service area,
- Water source,
- Funding sources for both the construction and operation,
- Formation of a Water Supply Enterprise,
- Water Supply Enterprise's acquisition of water rights by
  - conversion from irrigation to municipal,
  - application for water rights appurtenant to water right land presently owned by government entities which is not being beneficially used,
  - requirement of water rights dedication concomitant with subdivision approval,



## 11. PUBLIC SERVICES AND FACILITIES

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- Creation of a wastewater collection and treatment system.
- Creation of development standards for water and waste- water services.

### Policies and Action Programs

#### PSF 13.1 Prepare a Water Resources Plan for Churchill County.

PSF.13.1.1 Churchill County shall prepare a water supply and water quality plan for Churchill County which satisfies all water resource goals, objectives, and policies contained in the Master Plan, and that attains and maintains federal, state, and local water quality standards.

#### PSF.13.2 Coordinate all water supply management facilities in Churchill County.

PSF.13.2.1 Churchill County shall have planning, design, construction, plus operation and maintenance responsibility for all water supply facilities in unincorporated Churchill County.

#### PSF.13.3 Consolidate water management and supply in Churchill County to reduce the duplication of services and facilities and provide consistent non-competitive water management.

#### PSF.13.4 Prohibit the creation of new private water and wastewater utility companies in Churchill County.

#### PSF.13.5 Ensure that private water and sewer companies with insufficient equity to remain viable not become certificated utilities under the jurisdiction of the Public Service Commission.

PSF.13.5.1 Churchill County will review all water and sewer utility applications for Certificates of Public Convenience, within Churchill County, and make recommendations to the Public Service Commission.

#### PSF.13.6 Prohibit the dedication of facilities and water rights to private water and sewer utilities.

PSF.13.6.1 New facilities or water rights required by a private water utility shall be financed, built, and owned by the utility or shall be provided by developers and retained in public ownership by dedication to Churchill County. Churchill County will then lease the facilities to the private utility at a cost of the normal maintenance of the facilities.

PSF.13.6.2 When a parcel is created in a Public Service Commission created or recognized service area, the type and amount of water rights to be dedicated will be the type and amount required by Churchill County. The water rights will be dedicated to Churchill County, recorded on the subdivision or parcel map, and leased to the water purveyor by Churchill County when service is extended to the parcel.

#### PSF.13.7 Ensure water systems and facilities meet all applicable state and local requirements and make adequate provision for matters including, but not limited to, minimum size of system, inspection, fee collection, and maintenance. The standards and procedures for the creation of water systems and facilities are subject to review and approval by the Board of County Commissioners.

#### PSF.13.8 Require the uniform mandatory installation and use of water meters in Churchill County. Water meters are essential to provide for water conservation, equity in billing for water use and effective management of water resources.

PSF.13.8.1 Water meters will be required on all new residential, commercial and industrial construction, to the extent allowed by law.

PSF.13.8.2 Allow the use of water meters to monitor and enforce water conservation.

## 11. PUBLIC SERVICES AND FACILITIES

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PSF.13.8.3 Where legally allowed, individual non-metered water users will be encouraged to request the installation of water meters on a voluntary basis. Economic incentives such as grants and low cost loans can be used to provide the needed encouragement.

PSF.13.9 Prohibit long-term groundwater mining as a method of water management. Short-term groundwater mining is an unavoidable and acceptable aspect of all groundwater development schemes.

PSF.13.9.1 Churchill County shall work with state agencies to manage local groundwater resources to provide for annual use of these resources which does not exceed levels sustainable at current rates of inflow and recharge.

PSF.13.10 Evaluate and study the conjunctive use of the groundwater basins.

PSF.13.11 Plan water supply for Churchill County based upon meeting the average water demand in normal to dry years with additional water conservation measures or other actions in periods of severe drought.

PSF.13.12 Ensure that a safe and dependable water supply is provided.

PSF.13.12.1 Areas planned for urban or suburban development (residential densities greater than one unit per 5.0 acres or more units or comparable non-residential development) will be served by a community water supply system. In accordance with adopted and existing County policies and ordinances, all new systems and facilities shall be dedicated to Churchill County.

PSF.13.12.2 Churchill County in cooperation with other departments and agencies, shall develop water service plans to coordinate the expansion of existing and new water systems. Where appropriate, the plans shall include groundwater recharge and the identification of recharge areas to be reserved from development.

PSF.13.12.3 Stored water without a replenishing source shall not be used for purposes other than for fire protection. The use of stored water for fire protection is allowed only with the approval of the appropriate fire protection agency.

PSF.13.12.4 Water supply planning and development must not adversely impact adjacent water users or other uses of water.

PSF.13.12.5 The cost of water service to serve new development shall be paid by the new development and the cost of service shall include the cost of extending service lines or facilities to the site.

PSF.13.13 Control the price of water rights through the open market.

PSF.13.14 Acquire and manage existing irrigation water rights as the primary method to increase the total municipal water supply.

PSF.13.15 Consider the priority and past use of water rights in the acceptance of the dedication of water rights to Churchill County and/or water purveyors within Churchill County.

PSF.13.16 Require dedication of water rights to Churchill County at the time of project recordation. A plan approved by Churchill County for the transfer, change in point of diversion, or change in use shall be outlined in sufficient detail to clearly state intended use.

PSF.13.17 Ensure that sufficient water rights are dedicated to Churchill County when new parcels are created.

## 11. PUBLIC SERVICES AND FACILITIES

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PSF.13.17.1 When new parcels are created which either require the installation of a community water system or are within the jurisdiction of a Public Service Commission established service area for a water purveyor, then dedication of water rights will be for all parcels created by the subdivision or parcel map.

PSF.13.18 Protect groundwater recharge areas and develop programs to utilize groundwater discharge.

PSF.13.18.1 Known recharge areas along streams shall be protected and maintained to allow recharge to continue.

PSF.13.18.2 The capture and use of groundwater discharge, if it does not conflict with existing water rights, will be encouraged by Churchill County.

PSF.13.18.3 Churchill County will consider the adoption of an ordinance to protect recharge areas along streams. Discharge areas will be excluded from protection.

PSF.13.19 Minimize the use of high water demand vegetation for decorative uses on public and private project landscaping. Encourage new public and private development to use water conservation landscaping and fixtures.

PSF.13.20 Reduce water demand through xeriscape landscaping, reclamation, and reuse of wastewater for parks, medians, golf courses, and other appropriate application uses.

PSF.13.20.1 The Churchill County Planning Department will include provisions for reclamation of water resources and appropriate uses for wastewater application in the Churchill County Development Code.

### Wastewater

State regulations require a minimum area of one acre for the installation of an individual sewage disposal system on a lot served by a well and a minimum of ½ acre for a lot served by a community water supply. For construction of other than single-family dwellings there must be a minimum area of 22 s.f. per gallon of estimated sewage, one half of this land must be available for sewage disposal. Other details of the regulations pertain to the percolation testing and location of the sewage system. Of particular importance is that it must not be located within 100 feet of any well or other water source or within 150 feet of any spring or well not sealed the first 50 feet of depth. The State of Nevada has set a septic density requirement for unincorporated Churchill County. New development on individual septic systems must meet the density standards.

These regulations are adequately described and it is in the best interest of the community to support them. The County Commissioners will mandate that in all cases adequate checks and controls on the lots' sewage systems are in place by requiring satisfactory completion and approved review of the public health checklist and adopted design standards and guidelines. New development that creates parcels of less than 5 acres in size will be required to connect to a central treatment facility.

The City of Fallon wastewater disposal system serves the residents of Fallon and has capacity for expansion beyond the city limits primarily to the north and southeast. County owned and operated systems will initially be developed in areas west of Fallon that are currently zoned for higher density development.

Currently, 2003, some domestic septage is transported to Reno for disposal resulting in a 300% increase in costs. Land application of domestic septage is permitted by special use permit in certain agricultural zoning districts. Currently two licensed septic pumpers are permitted through the NDEP to dispose of domestic septage from Churchill County, by land application.

### Policies and Action Programs-Waste Water

## 11. PUBLIC SERVICES AND FACILITIES

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### Treatment

PSF.13.22 Coordinate all wastewater management facilities in Churchill County.

PSF.13.22.1 Churchill County shall have planning, design, construction, plus operation and maintenance responsibility for all wastewater treatment and collection facilities in unincorporated Churchill County.

PSF 13.22.2 Wastewater treatment and collection facilities will be developed in accordance with a capital improvements program.

PSF.13.23 Construct sewage treatment facilities concurrent with development of land uses generating demand for those facilities.

PSF.13.23.1 All planned urban and suburban development with residential densities of more than one unit per 5.0 acres shall be included in the service area of a community sewage treatment facility. Sewage treatment facility service areas shall not overlap. Centralized/community sewage treatment facilities shall not be provided to areas planned for rural development (density less than one unit per 5.0 acres or a density equal to or less than A2).

PSF.13.23.2 The provision of sewage treatment services shall not be used to alter the adopted pattern or timing of development.

PSF.13.23.3 Churchill County will ensure that all capital improvements programming, funding, and construction for sewage treatment facilities shall be consistent with the goals, objectives and policies contained in the Churchill County Master Plan, and the appropriate service and facility plans.

PSF.13.23.4 Churchill County shall establish programs for the

provision of centralized service to those areas with failing septic tanks or other service inadequate to meet existing needs, and areas with potential to pollute the water supply if developed on septic systems.

PSF.13.23.5 Churchill County will ensure that sewage treatment systems are funded separately from other general government operations. General government funds, however, may be used to secure revenue bonds for sewage treatment facilities.

PSF.13.23.6 The Churchill County Planning Department will review all projects to ensure that sewer costs directly attributable to new development are paid for by the new development. Costs of service shall include the cost of extending service lines or facilities to the site.

PSF.13.23.7 New development proposing lot sizes of less than one unit per 5 acres or smaller shall not be approved if it proposes to use on-site sewage treatment and disposal systems, unless it qualifies for one of the following exceptions:

a. The development combines or reconfigures existing parcels, which have the legal right to use individual on-site sewage treatment systems, and the new or recombined lots are equal to or larger than the existing parcels.

b. The development is designated for E1 (First Estate) or less dense development by the appropriate Churchill County Land Use Plan map and:

(1a) The area is scheduled to be sewered within the next five years as shown in the Capital Improvements Program; and

(1b) The development is served by a community water system and will have minimum 1/2 acre lot sizes; and

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(1c) The project includes dry sewer lines and is designed for future connection to a community sewer system; and

(1d) The conditions of project approval require the creation of a financing mechanism, such as an improvement district for sewers, so that lot or homeowners will make regular payments toward future sewer connection and construction costs; and

(1e) The conditions of project approval require a recorded waiver of protest to the formation of a sewer improvement district and to the payment of sewer financing charges by the original and subsequent purchasers.

PSF.13.24 Design and construct sewage treatment facilities which optimize their impacts on the environment and on surrounding development.

PSF.13.24.1 Churchill County will support efforts to reuse effluent for irrigation, wetlands production, groundwater recharge, or other activities consistent with adopted public health and water quality objectives.

PSF.13.24.2 Churchill County shall ensure that discharge and disposal of effluent and sludge from sewage treatment facilities do not violate applicable discharge and water quality standards.

PSF.13.24.3 Churchill County shall support efforts to reuse sludge in the most environmentally advantageous way.

PSF.13.25 Ensure that a safe and effective wastewater treatment system is provided.

PSF.13.25.1 All new projects may be required to connect to a sub-regional or regional wastewater treatment plant, to provide dry sewers in anticipation of being connected to such a facility, or to design the project so that the residences can be served by sewers installed in the public rights-of-way.

PSF.13.25.2 Encourage the Bureau of Health Protection Services to inspect septic systems for proper functioning whenever a home is sold in order to provide assurance of water quality non-degradation.

PSF.13.26 Ensure future and proposed development is consistent with wastewater disposal facilities and the ability of the environment to assimilate effluent without violating applicable water quality standards.

PSF.13.26 Establish a water quality-monitoring program in topographically closed basins to determine the rate and extent of contamination that may result from wastewater disposal practices.

PSF.13.26.1 Churchill County in cooperation with the State Engineer and the Nevada Division of Environmental Protection, will establish a groundwater quantity and quality-monitoring program.

### SOLID WASTE MANAGEMENT

Unincorporated areas of Churchill County do not have mandatory trash collection and recycling programs. The City of Fallon operates a landfill site south of U.S. 95 and has mandatory trash collection within the City limits. An independently run transfer station is available for trash and domestic refuse disposal. Trash burning occurs throughout the area outside the City limits. Over the next few years, Churchill County needs to consider trash collection and recycling programs for urbanizing areas of Lahontan Valley and evaluate disposal alternatives.

### CEMETERY

The cemetery located northeast of Fallon off Cemetery Road is extremely well maintained and beautifully landscaped.

The original facility was 11 acres. An additional adjacent 11

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acres was purchased to the east. Of this additional parcel, three- acres have been developed, eight-acres remain undeveloped.

The area is divided into regular grave spaces of 4 feet x 8 feet (32 s.f.). Each space can accommodate one adult coffin or several cremains or infant burials. There are approximately 8,000 burials within the 14 acres. The original section is approximately 85% full but the remaining spaces are reserved. To provide additional capacity in the original section, walkways were developed as burial plots.

In the new three-acre section, approximately half the plots are occupied or reserved. The remaining space will accommodate a maximum of 2,000 regular plots assuming utilization of the walkways. In the additional eight-acres nearly 11,000 regular plots can be accommodated with utilization of the walkways.

With the existing land, it is estimated there is capacity for an additional 13,000 grave spaces. This capacity is increased with cremains. However, this increase is offset by the number of plots which are reserved by families and remain unused. It is difficult to estimate the impact of these factors on the cemetery capacity. Consequently, for planning purposes, it is considered reasonable to estimate the capacity for burials to be equal to the estimated number of regular plots remaining, that is 13,000.

The total number of burials of all kinds has been approximately 125 per year over the past ten years. In 1989 it was somewhat lower at 115 but for the first six months of 1990 it was 78 and is projected to be 150 for the year. At an annual increase of 5% (equal to the population growth of the over 65 age group), 13,000 plots would accommodate 33 years of burials.

### TELEPHONE

Telephone service in Churchill County is supplied by Churchill County Telephone dba CC Communications. CC Communications is a

modern, full service communications company providing all wire line telephone services plus cellular, long distance, DSL internet, and digital television. CC Communications details can be viewed at [www.cccomm.net](http://www.cccomm.net). One objective of management of the system is to keep basic rates down. This effort has been successful since the rates to customers are lower than in other comparable communities.

The following statistics are for Churchill County including Fallon. As of January 2002 there were 4,540 businesses and 9,902 residential access lines operating. The system is designed for 30,000 access lines from a modern digital central office. Growth is projected to average 3% per year with business growth slightly out-pacing residential growth.

Telephone service is available throughout Churchill County. The area most readily served is within a nine-mile radius of the center of Fallon. Continuing technological improvements are being made to improve the quality of the system. Widespread use of fiber optics is in place and in conjunction with road construction, most services have been installed underground.

The organization is investing in other business opportunities such as cable TV service using the latest digital transmission technology over high-speed ADSL lines. Cellular service has been offered since 1989 and has been growing every year with continued upgrades from analog to digital technology. Dual route fiber optic transmission facilities provide the transport to Reno and all schools, local government offices, and major businesses also have high-speed fiber transmission capabilities. Continuing changes in the technology of the telephone industry will require constant monitoring to ensure customer service is provided at the best levels of price/performance. This is particularly important in attracting economic development to the county.

### PUBLIC SAFETY

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### LAW ENFORCEMENT

#### SHERIFF

The Sheriff's detention center is in the law enforcement building on N. Maine Street and the administrative offices are behind to the west.

Case statistics show that the total number of cases is increasing at a rate greater than the increase in population. Within these numbers, violent crime has shown the most significant growth in the past two years. The total number of cases represents criminal activity. They do not include miscellaneous incidents which are not related to crime, for example calls for assistance.

The Sheriff indicates that Churchill County is five years behind the national averages of criminal activity.

The current jail was designed to hold 32 inmates but has been reorganized to hold 54 including a section for 8 women. The City of Fallon closed its jail in 1986 and shares the county jail. The city pays the county on a per inmate per diem basis. Initially, the city inmates were at an average of 14 per day. In 1989 the average was 3-1/2 per day. In 1975 the total jail population averaged less than one inmate per day, recently it has been as high as 70 per day.

The law requires adequate facilities for jail inmates and Churchill County is planning to meet the need. In addition, once a community exceeds a population of 20,000 it must provide a juvenile detention facility. Churchill County may be at that limit. In 1992, an evaluation of Sheriff Department space needs was completed. It would appear to be cost effective to construct the juvenile facility in conjunction with the jail allowing for the joint use of some of the support facilities, (e.g. kitchen, laundry, storage areas) while maintaining separation of the housing and recreation facilities.

The residents of Churchill County have a strong desire for strict law and order and aggressive prosecution. However, cost

effectiveness and modularity of design will be essential in the building program.

#### FIRE SERVICE

The fire department has three full-time staff: the Fire Marshall, Master Mechanic and a maintenance person. The Fire Chief is elected every year by the members of the department. Membership has increased from 32 volunteers to 42 to provide the necessary people needed during the day work hours.

Mutual aid agreements have been in effect for a number of years with the NAS Base, Pershing County Department, which lies 55 miles to the north, Central Lyon County, Fernley that is 30 miles to the west of Fallon.

Two satellite stations have been built and equipped in the past three years, with a pumper and tender in each station. These outlying stations give quicker responses to the outlying areas

In 1995 The Department received the best possible ISO rating both in the City and Churchill County.

The equipment, there are seven major pieces, is in good condition. Most major pieces of fire equipment have a life of 20 years.

There is an average of 225 calls per year. The primary calls are for brush fires. These tend to occur in the spring while the farmers are clearing the land and before the irrigation season begins. Over a three-month period there will be 80-100 calls. Calls in summer are primarily due to thunderstorms and in winter due to stoves.

Response time to calls varies with the distance from the fire station. During the daytime the first truck will make the first street corner within one minute, at night it will take 3-4 minutes.

The Fire Department is not equipped to handle a hazardous

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spill completely. It acts as first responders and stabilize the situation. Trained assistance is called in. There have been six hazardous accidents over the years. The Fire Department needs additional training and equipment to handle potential radioactive wastes shipments to the Nevada Test Site and the proposed Yucca Mountain Project should such shipments occur on local highways. Three major highway transportation routes (I-80, U.S. 95, and U.S. 50) pass through Churchill County as well as the Union Pacific mainline.

### **DISTRICT ATTORNEY AND THE COURTS**

#### **DISTRICT ATTORNEY**

As the population in Churchill County continues to increase, the number and complexity of crimes prosecuted by the District Attorney's Office increases annually. The District Attorney's office is also asked to provide legal assistance and guidance to other County departments in addition to maintaining a child support office for the collection and enforcement of child support obligations.

A number of technological advances have been made by the District Attorney's office in recent years to manage the ever-increasing caseload and stay abreast of current laws and courts' interpretations of those laws. A state-funded grant made it possible to install a sophisticated case management system to aid in tracking and managing cases. The Child Support Division has recently changed its method of tracking payments and histories on their cases as a result of federal mandates.

The size and location of the District Attorney's offices continues to be a problem. Lack of storage space and close proximity to the County Administration complex or Law Enforcement facility reduces working efficiency and productivity. Considerable savings could be realized by housing the entire District Attorney's staff in a common office preferably in close proximity to the County Administration complex and the Law Enforcement complex.

#### **COURTS - JUSTICE COURT**

The current staff of the Justice Court consists of one Justice of the Peace, one Office Manager, three Court Clerks and one part-time student helper. The renovation of the historic courthouse has allowed the court to operate comfortably with sufficient room for the current staff. The first floor of the building has been left vacant in the event a second Justice of the Peace and other staff are required.

The court has budgeted for, but is still awaiting the implementation of a new case management system. This computer program will greatly enhance the efficiency of processing paperwork and caseloads. In the near future the Multi County Integrated Justice Information System (MCIJIS) will be installed which will give the court the ability to share information between law enforcement agencies within the County as well as between Lyon, Storey, Carson and Douglas County.

Several factors have generated a dramatic increase in the civil caseload brought before the court:

- monetary limits on civil suits have increased to \$7,500 and small claims actions have increased to \$5,000
- new laws have passed concerning restraining orders and protection orders, making them more easily attainable by the public
- there are a large number of landlord/tenant and small claims cases due to the high percentage of short-term transient residents renting property.

The criminal caseload in the Justice court has also continued to steadily increase over the years. In addition, new laws regarding mandatory sentencing have increased the time needed to process and monitor cases.

#### **COURTS - DISTRICT COURT**

The Third Judicial District Court includes Churchill County and Lyon County. Both Fallon and Yerington have court facilities. There are three District Court judges, the third was added January 2001.



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The staffing in Fallon is four clerks under the County Clerk and Judicial Assistant. Each Judge has a Law Clerk. The District Courts each have two courtrooms. Both sufficient for jury trials. At this time, staffing is adequate.

The Sheriff's Department provides an armed bailiff in the courtrooms during all sessions.

With two courtrooms in Fallon and two in Yerington there are only infrequent scheduling problems. The major requirements for space allocation are conference rooms for counsel and their clients and separate waiting rooms for victims and witnesses.

The caseload now is increasing by approximately eighty (80) new cases per month.

Computers are now in use in each courtroom and a new case management program is being designed to bring consistency to the courts, statewide. This should be up and running by 2003.

### PUBLIC HEALTH

Churchill Community Hospital, an affiliate of Banner Health System located in Phoenix, Arizona, was opened in July 1996. It is a modern, JCAHO accredited, 40-bed facility providing a full-compliment of healthcare services.

Facility services include:

#### INPATIENT SERVICES

Medical Surgical  
ICU/CCU Unit  
Birthing Suites  
Obstetrics/Gynecology  
Pediatrics Unit  
Newborn Nursery

#### SURGICAL CENTER

General Surgery  
Laparoscopic Surgery  
Orthopedic Surgery  
Anesthesia Services  
Post Op Recovery room

Cardiopulmonary Services  
Pharmacy Services

#### EMERGENCY SERVICES

24 Hour Emergency Room  
Level IV Trauma Center  
Paramedic Ambulance Service  
Care Flight helipad Access

#### DIAGNOSTIC IMAGING

Mammography  
CT Scanner  
Radiology  
MRI  
Ultrasound  
Nuclear Medicine

#### CONSULTING SERVICES

Home Medical Equipment  
Home Health  
Infusion Center

#### CONSULTING SERVICES

Urgent Care Center  
Laboratory Services  
Blood Bank  
Cardiac Rehabilitation  
Physical Therapy  
Occupational Health  
Speech Therapy  
Work Care

#### LIBRARY

#### PATIENT EDUCATION

Prenatal Programs  
Diabetes management  
Dietician/Lactation  
consultant  
Wellness Program

#### PHYSICIAN CENTER

Family Practice  
Internal Medicine  
OB/GYN  
Orthopedic Surgeon  
Anesthesiology  
General Surgeons  
Pediatrics

#### MISCELLANEOUS SERVICES

Cardiology  
Dermatology

#### MISC. SERVICES

Urology  
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## 11. PUBLIC SERVICES AND FACILITIES

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The existing Churchill County Library was designed by Nevada architect Edward S. Parsons. It was constructed in the fall of 1966 on the corner of Maine and Virginia streets. The original site of 22,459 square feet, approximately .50 acres, included 19 parking spaces and a loading dock where the bookmobile was stored. The bookmobile was discontinued in 1986 and Friends of the Library enclosed the front of the garage and turned that area into a used bookstore, Serendipity Corner. Another addition to the bookstore occurred in 1995.

The Churchill County Library is the only public library serving all of Churchill County. When originally constructed in 1966, the population of the county was approximately 9,700; the current population is currently over 26,000 and the library serves on average 300 to 600 patrons per day. With the steady increase in population, the number of people using the library increases proportionately.

In October 2001, Churchill County purchased three parcels of land abutting the library's property to the north. This has allowed the library to plan for a future expansion of the facility. In August 2002, the Library Board contracted with Hershenow & Klippenstein Architects in Reno to compile a conceptual plan for this future growth. The idea is to add 3,900 square feet to the current 9,265 square feet. Specific building and program goals are as follows:

- Reorient the building entrance to face the proposed new parking area to the north
- Provide more stack areas for the ever growing collection
- Relocate and expand the used bookstore for better access from inside the library, located to enable it to maintain separate operating hours
- Expand the Children's area
- Provide more Internet accessible computer
- Provide a Media Center where audio and video materials can be experience prior to checking out
- Provide a reading room

The library is not just books anymore. We are free internet access to the world; we are free access to state, local, and federal

government; we are books on audio tapes and cds; we are movies and documentaries on VHS and DVD; we are the history of Nevada.

### ADMINISTRATIVE FACILITIES

In June 1998 most of the administrative offices within the County moved into the rehabilitated and renovated old hospital building at 155 N. Taylor Street. The Administration complex houses the following departments: Assessor, Buildings and Ground, Child Support, Clerk/Treasurer, Commissioners, Comptroller, County manager, Personnel, Planning/Building/GIS, Recorder, Social Services, and Veterans Services.

Churchill County has approximately 33,000 acres of trust lands, lands held by Churchill County for non-payment of taxes. These lands may be used to trade with Federal and other governmental agencies to consolidate choice parcels for historical preservation and other public and private use.

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### OBJECTIVES:

1. Encourage regional cooperation for cost effective sewage, waste disposal, and water supply systems.
2. Establish a regional planning commission consisting of representatives from the City of Fallon and Churchill County.
3. Continue recruitment of highly qualified health care providers.
4. Pursue energetic programs aimed at maintaining a quality care hospital and highly qualified personnel assisted by federal, state, and local funds.
5. Develop water right transfer policies for lands in path of urban development to assure continued and viable agriculture industry; to provide for municipal and industrial needs; other economic and aesthetic needs.
6. Develop a joint solid waste management disposal plan, with the City of Fallon, exploring all options.
7. Develop an emergency response support plan for training, equipment, equipment service, facilities and personnel in the event Yucca Mountain is selected as a repository of high level radio-active waste.
8. Ensure the development of comprehensive data to determine the impacts of any changes to the water supply of Churchill County.

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3. Nevada Administrative Code Chapter 444.
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5. Churchill County Domestic Water System, Project Report; Wateresource, Consulting Engineers, 1977.
6. New Dimensions in Safe Drinking Water, American Water Works Association, 1988.
7. USGS Open-File Report 93-463, "Hydrogeology and Potential Effects of Changes in Water Use, Carson Desert Agricultural Area, Churchill County, Nevada" by Douglas K. Maurer, Ann K. Johnson, and Alan H Welch.
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9. "Newlands Reclamation Project Water Rights: A Personal Property Issue" prepared for Nevada Policy Research Institute by Ernest C. Schank.
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### GOALS:

1. Coordinated city/county planning.
2. Greenbelts or transitional areas that separate incompatible land uses.
3. Urban and rural neighborhoods designed and maintained according to principles of aesthetic and functional design, and safety.

Churchill County, in common with many other communities, is experiencing the effects of growth. Along with growth comes change, not all of which is perceived to be positive.

Pressures to approve construction of housing, commercial and industrial projects frequently lead to decisions being made by local authorities without data documenting the long-term impacts. The Commissioners have to live by the Master Plan and ordinances, which are in place. Ordinances and planning documents, developed before significant growth occurs, often assume consistency within the community in commitment to continuation of the image which first characterized the area. There are insufficient controls included and a great deal is left to the discretion and judgment of the project owner or developer. Until such controls are tested by practical application in the growth period, the inadequacies are not recognized. In addition, few communities can justify the resources to develop design standards before the pressures of growth negatively impact the environment.

Growth without design criteria in place has led to inconsistency within Churchill County in design quality. A wide range of design quality exists. This is particularly true in the areas of commercial development along Highway 50 west of Fallon. Some projects have made major efforts to achieve an attractive appearance through landscaping, building materials, screening, and location of building and parking on the site. All of these reflect good, thoughtful design. Unfortunately, other projects are constructed with little apparent concern for the neighborhood and community. With this mix, the overall impression is becoming unsightly and substandard. Not only does this give a negative community image, today it could discourage quality growth for the future. The message is projected that the community does not care. Potential newcomers

could have concern there will be inadequate protection for their investments.

Recognizing the need to develop some standards particularly along the Reno Highway corridor, in 1999 the County adopted landscaping and parking requirements for commercial and industrial development. These ordinance changes were soon followed by amendments to the sign ordinance to encourage appropriate signage

In order to encourage design standards that reflect a positive image it is important to establish the image which the community wants to project. This image should be consistent with and reflect the lifestyle and natural resources of the community. In the case of Churchill County, the cornerstone of the image is rural and agrarian. In addition there are elements of the historical West and wildlife. Not to be forgotten are the industrial facets represented by the Naval Air Station and mining. These diverse parts of the image need not be in conflict as they relate to community design. They provide variety, interest, and uniqueness. The best elements from each together create the complete Churchill County.

The success of the design of a project, whether residential, commercial or industrial, is how well it responds to context, need and form, and how well it addresses the impacts it generates.

- Context characterizes the relationship between the project and its surroundings. This includes consideration of scale, size, height, setbacks, buffer zones.
- Need describes the project's functional requirements. This includes parking; ingress and egress; inventory, garbage and equipment storage; advertising and on-site signage.
- In designing a project, many forms can meet the context and functional requirements. These can project a pleasing appearance by thoughtful use of materials, colors, density,

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landscaping, and architectural style. While it is not the intent of the Master Plan to dictate specific design styles, it is desirable to encourage the highest appropriate long-term quality consistent with a project's function. Often this can be accomplished by establishing coherence within the project, compatibility with adjacent land use, and a high standard of maintenance.

There is potential for many impacts to be imposed by a project on the community. These impacts include such things as requirements for public services (i.e. police and fire protection, schools, utilities services, parks), generation of pollution, dust and traffic, health and safety issues. The costs and disruptions of these are primarily absorbed by the community. However, the costs associated with mitigating the impacts, often to satisfy increased standards imposed by the federal government, are beyond the capacity of the local authority's budget. Consequently, it is necessary for the County to review potential impacts, determine that satisfactory measures will be taken to mitigate against them where possible, and to assess to each project exactions to cover any costs.

### SITE DESIGN

Each project plan should be based on a thorough analysis of the site to understand its relationship to the physical environment. A site analysis should include considerations of:

- Roads, curbs and gutters,
- Utility access to the site(s),
- Common recreational/park areas,
- Surface water distribution,
- Water service,
- Waste disposal,
- Topography,
- Views,
- Vegetation and landscaping,
- Drainage,
- Solar path—summer & winter,
- Wind,

- Access,
- Adjacent structures.

Every effort should be made to retain the existing natural features. The incorporation of trees, natural slopes, rocks, and views should be considered in the placement of buildings to minimize destruction of the vegetation.

Where grading is necessary, it should be done in such a way as to achieve a natural appearance. By placing emphasis on landscaping and naturalizing the developed site, the visual impact of grading is less harsh and erosion and slope stability are controlled. To reduce the negative physical and visual impacts that may be created, cut or fill slopes should be designed so they are visible from the residence on the property in which they are located. Slopes adjacent to a roadway should be maintained in a uniform manner.

Ridgelines should be preserved as much as possible. Through careful placement, development can help preserve vistas and landforms.

Each plan for development should analyze wind direction and solar orientation. Consideration of such factors as landscaping, window placement, overhangs, building location, parking, and activity areas will improve site utilization. The objective of thoughtful site planning is to help solve environmental problems, ensure the protection of the environment of adjacent properties, and provide a positive view from adjacent major thoroughfares.

When a project includes the subdivision of a larger parcel, a master plan of the entire larger parcel in addition to the master plan of the project will be required as a condition of approval of the project. Such master plans should include assessment of impacts on the county, provision of necessary services and facilities, design standards and the mechanism for enforcement.

Realization of site and project design as presented to the County for approval can be obtained through conditions, covenants and restrictions (CC&Rs) appurtenant to the property, homeowners'

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associations, easements, and/or deed restrictions.

### **BUILDING DESIGN**

New structures should complement adjacent structures in terms of scale and proportion. This is particularly important in the protection of historical buildings. Transition areas can be developed and a balanced interrelationship with existing structures achieved through the use of complementary form, materials, and details without necessarily copying existing architectural styles.

Establishing a degree of design consistency within a housing development is beneficial to the overall appearance of the project and provides protection of property value to the homeowners. This can be accomplished by CC&Rs, which document the standards expected within the project. It is advisable that CC&Rs be a requirement of the project approval documents.

Additions and accessory buildings should have an exterior appearance that is sensitive to the main structure. Color schemes, materials, form, and style should enhance rather than detract from the existing structure.

Buildings should be considered as an integrated whole. Consideration should be given to every side of the building, especially sides adjacent to existing structures and in clear public view. Facades that are long uninterrupted horizontal planes should be avoided. Exterior treatment should integrate the use of material, color, and texture on every side of the building.

### **ACCESS AND PARKING**

Access points should be kept to a minimum. Joint access between adjacent businesses should be used whenever possible to reduce traffic hazards along major routes. When a site has access to two streets, access should utilize the street which has the least impact on traffic flow.

Circulation patterns of parking lots should be logical and easily

comprehended by the user. Conflicts should be reduced through the use of berms and landscape areas. Through the prudent use and placement of compact spaces, adequate area for landscaping within parking areas should be provided. Parking areas should be designed and landscaped to minimize glare, provide shade, ensure adequate drainage, and reduce the visual impact of a large numbers of cars.

It is important to ensure there is adequate parking for each type and size of facility. These details should be determined and added to the ordinances.

Parking lots, with their expanses of blacktop, often are an unattractive element in commercial and industrial districts. Too many parking spaces add unnecessarily to visual pollution. Landscaping of parking lots is costly due to widespread irrigation requirements. Consequently, keeping parking areas to a reasonable size will encourage a higher standard of landscaping.

### **LANDSCAPING**

During the development of the Master Plan in the early 1990's the public was concerned that development was occurring rapidly without due thought to aesthetics.

One major contributor to the public's perception that the aesthetic qualities of the county were deteriorating is that commercial and industrial development is occurring without landscaping. While surrounded by sparse vegetation of desert and marshlands, the developed area of Churchill County is an oasis of rural farmland. The community is accustomed to picturesque green vistas.

Without subsequent planting of landscaping, land disturbed by development quickly turns to sand and weeds. Not only is this very unattractive, as the wind blows it contributes to the particulate problem.

In 1997 the County adopted a Dust and Sand Control ordinance in an attempt to mitigate the dust caused from soil erosion due to land use change.

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The greatest dilemma in enhancing the environment through landscape requirements is the trade-off consideration between water conservation and the amount of landscaping that is suitable. Care should be taken to balance the goals of beautification and water conservation.

There are a surprising variety of plants climatically suited to the area. These need not be limited to desert-like vegetation.

The County enacted a landscape ordinance in 1998 that encourages the use of plants that are climatically suited to the area and landscaping that conserves water.

The community expects the county authority to live by standards that are set or even to lead the way. The County has completed two major projects since 1998, the Historic Court House renovation and the renovation of the old hospital into the County Administration complex. Both projects demonstrated the County's support of design and landscaping that supports our heritage and is aesthetically pleasing. The Historic Court House renovation showed the County's willingness to work with the City on design standards for downtown revitalization.

### SIGNAGE

Hwy 50 (Reno Highway) is the main entrance into Churchill County from the west. Attractive signage and landscaping along that route significantly contribute to the image of the county. In 1998 a new sign ordinance was adopted that encourages appropriately sized signs and limited the number of signs placed on property. In addition procedures were put in place to encourage continued maintenance of signs.

### SCREENING

There are many small elements in the design of a building, which can make considerable positive or negative contributions to the overall impact. Such an element is the screening of garbage

containers or the screening of materials and products being stored outside a building.

If the screen is constructed in the form and material consistent with the building itself, the effect is an integrated cohesive unit. On the other hand, if the garbage container is out in the open or materials and products are screened by a chain link fence, the effect can be an untidy eyesore.

Open storage of materials and products has been addressed in the County ordinances and new developments have been required to appropriately screen materials stored outside.

In the past few years several well-designed new developments have been constructed that provide a positive impression of the community. As the community continues to grow and new businesses move in or replace existing businesses new design standards, in particular screening, landscaping, and signage, will be met and over time design standards will be consistent and of a standard that the community desires.

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### OBJECTIVES:

1. Establish programs aimed at protecting the natural landscape.
2. Encourage compatible uses of adjacent properties.
3. Encourage a program for property improvement and beautification.
4. Encourage parking facilities in conformity with community needs.
5. Provide signs that direct tourists to local, scenic, and historical attractions as well as campgrounds.
6. Encourage establishment of a joint Planning Advisory Board consisting of representatives of the City of Fallon and Churchill County.
7. Encourage projects that protect safety and aesthetic values of neighborhood properties.
8. Examine the need for a plan for the protection, enhancement, and development of the Carson River.

**REFERENCES:** 1. City of Reno, Department of Planning and Community Development, "Community Design Handbook."



## **CHURCHILL COUNTY OPEN SPACE PLAN**



**CHURCHILL COUNTY PLANNING COMMISSION  
JULY 2003**

## 13. CHURCHILL COUNTY OPEN SPACE PLAN

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### SUMMARY

This Open Space Plan is a guide for the whole community to use in sustaining our resources and maintaining the quality of life we enjoy. It provides specific suggestions and tools that may be used to aid leaders in their decision-making.

*The vision is to evolve and grow into a community that maintains its rural character, manifested in the abundance of open spaces that provide wildlife habitat, recreational opportunities and economic benefits from agricultural activities, while ensuring economic vitality. This is a sustainable community realized by:*

- *Securing, enhancing and protecting our resources*
- *Optimizing the use of our resources*
- *Promoting a balance between residential and commercial growth*

The County Planning Department will initiate the early stages of implementation of the Open Space Plan after its approval by the Board of County Commissioners. Success of the plan is ultimately dependent upon community ownership and implementation by citizens. Initially, efforts must be focused on achieving collaboration and support of all stakeholders, defining responsibilities, identifying funding alternatives, and reaching consensus on our vision. This plan is not intended to be all-inclusive in terms of on-going projects and future plans. It is a dynamic document that will change as situations change and as projects, programs, and funding become available.

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### INTRODUCTION

The Newlands Project created an oasis in the desert of northwestern Nevada. Churchill County is a community with a small urban center surrounded by fields of alfalfa and other crops, through which weave complex systems of canals and drains. The water is used to irrigate fields, provide recreational opportunities, recharge the underground aquifer, and provide rich wildlife habitat. The desert and mountains surrounding the irrigation project provide abundant renewable energy resources, a view of wide-open spaces, outdoor recreation, and wildlife habitat. Churchill County comprises approximately 3,144,000 acres, 85 percent of which is in federal management or ownership.

The goal of this document is to aid Churchill County leaders and citizens in protecting the important agricultural lands, wildlife habitat, and scenic open spaces today and for future generations.

### HISTORY

Since the late 1800's, the Lahontan Valley has been farmed and ranched. In an arid desert valley, irrigated agriculture was possible due to the Carson River which provided not only a dependable water source but, also, due to the river's meandering course and the annual spring flooding, lush meadows and grasslands. In 1903, with the construction of a federally supported reclamation project, the Lahontan Valley was envisioned to be a productive agricultural oasis.

As the Newlands Project was developed, various agricultural and commercial ventures were tried with both successes and failures. Since the formation of the Project the principal activity on most farms has been the production of alfalfa and the Lahontan Valley evolved into an oasis of green, wide-open spaces, interspersed with abundant wetlands and wildlife habitat.

Naval Air Station Fallon was built during WWII as an auxiliary air station, and was alternately deactivated and reactivated, finally achieving status as a fully operational base in 1972. Fallon Naval Air Station and the nearby Fallon Range Training Complex are vital to national defense. Low population density and availability of unencroached operating and training space attracted Department of Defense (DoD) investment in Northern Nevada and produces jobs and economic stability and brings over 200 million dollars per year into the local economy. The lands within the air station have been farmed and irrigated for many years. Those very same resources valued by the community, water and open spaces, are required to maintain the viability and growth of DoD operations.

Many agencies, groups and organizations have been involved in agriculture and water issues over the years. There are groups that provide technical conservation assistance to landowners as well as organizations that provide legal help in water right disputes. The many groups have been involved in programs and methods to protect and enhance the rural agricultural way of life.

As people move to the area and the population increases, the agricultural areas are being converted into residential areas. Water rights have been removed from productive farm ground, creating unsightly acreages of weeds, dust hazards, and declining wells. Citizens became alarmed at the rapidly decreasing acreages of agriculture, wildlife habitat and open space.

In 1990, landmark legislation known as Public Law 101.618 created and authorized programs for the purchase of water rights in the Newlands Project and the conversion of those water rights from an agricultural use in Churchill County to a water quality, endangered species, or wetlands purpose. This legislation has had a great impact on Lahontan Valley and its residents.

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In 1994, the Lahontan Valley Environmental Alliance commissioned a quality of life study to assess the attitudes of Churchill County residents with respect to their view of future development within the County. Telephone interviews were completed with 397 residents, asking for their opinions on issues such as whether or not the County should take steps to retain agriculture, if there is an adequate water supply, and whether or not there are adequate recreation facilities. The conclusions drawn as a result of those interviews are:

1. There is strong support for the retention and protection of agriculture.
2. There are strong concerns about the availability and quality of water.
3. There is a need for economic diversification.

In each category, respondents indicated that they would be willing to contribute funds to address the issue.

In 2002, the Churchill County Planning Commission embarked on an exercise to strategically plan for a sustainable community. Faced with the possibility of losing most or all of the water that encouraged creation of the Newlands Project and is the source of the community's irrigation and drinking water supply, they recognized that open space planning and the development of strategies to encourage agricultural activities to continue are the keys to preserving those water resources. The Planning Commission, with input from the general public and other groups, began the development of a plan to retain agriculture, water resources, open space, recreational opportunities, and wildlife habitat in the Lahontan Valley. The plan attempts to pull together all the different factions that are involved in maintaining a sustainable community.

A draft plan was developed and written by Planning Department staff and reviewed by the Planning Commission, Board of County Commissioners, and numerous agencies and groups. A public meeting was held in March 2003, at which the draft plan was presented to the citizens. Thirty-five people attended the meeting to discuss the plan and provide their input and comments. A final draft plan, incorporating citizens' suggestions, was completed in April 2003, and distributed again to local agencies and groups.

### THE REASON FOR AN OPEN SPACE PLAN

The population of Churchill County has increased greatly over the last 25 years. From 1970 to 1997, Churchill County's population increased by 127 percent, from 10,513 in 1970 to 23,860 in 1997 (U.S. Census and Nevada State Demographer). It is anticipated that the population will continue to grow as people and businesses are attracted to rural areas.

Over the last decade the water resources of the Newlands Project have declined due to purchases from competing interests and litigation by the Pyramid Lake Paiute Tribe. In addition, less water is being used for irrigation due to required levels of efficiency in the conduits of the water system and the U.S. Fish & Wildlife Service (USFWS) mandate to obtain and maintain 25,000 acres of wetlands in the Stillwater National Wildlife Refuge, the Carson Lake and Pasture and on the Fallon Paiute Shoshone Tribe Reservation.

The water used by irrigators in the Newlands Project has a multitude of uses and benefits. It is used not only to produce crops, but also to provide hydro-power resources, recharge the aquifer, maintain and enhance wildlife habitat and wetlands, and provide recreation opportunities. Studies suggest future potential shortages of water in the western United States. It is important for the Lahontan Valley to conserve its water resources and optimize its use so that the

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many benefits we enjoy are maximized. There may be a conflict between the retention of agriculture and other interests, and there must be a balance and a compromise between the competing interests.

Unirrigated areas of the county, primarily managed by the Bureau of Land Management, also provide rangeland resources, renewable energy resources, recreation, wildlife habitat, and viewsheds. The unobstructed view of the mountains in the distance is important to many residents who choose to live in Churchill County for the "wide open space" atmosphere.

With an increase in population comes land use change. In an area like Churchill County, which is historically an agricultural community, these changes can have drastic effects. Unmanaged changes in land use from agricultural to residential can result in a loss of open space and have unforeseen environmental and economic impacts. Churchill County is in need of a plan to provide guidelines and tools to effectively preserve appropriate assets. It is important to note that this plan is not a method to stop growth. Growth is important and inevitable, but there must be provisions to identify which viewsheds and lands are worth preserving in an undeveloped state and an understanding of the methods available to accomplish the goal of preservation.

Adequate open spaces benefit all members of the community, enhance environmental health and improve the livability and salability of the valley. Economic diversification is important and attracts new businesses that appreciate a diverse community with green agricultural lands, beautiful viewsheds, recreational opportunities, wildlife habitat, sufficient water quality and quantity, and open space. Open spaces are important because they provide an opportunity for people, especially children, to see, comprehend, and value relationships that exist between air, land, water, temperature, climate, plants, humans and animals.

Developing an open space plan helps community leaders to prioritize goals for the future and enables coordinated planning efforts and identification of funding sources. An open space plan helps to assure that the resources of the community are used most effectively in the conservation of open space and water resources.

### OPEN SPACE RESOURCES

According to Nevada Revised Statutes, open space land is defined as *land that is undeveloped natural landscape*. The major components of open space land in Churchill County are:

- **Agriculture**—Agriculture is an important part of life and the economy of Churchill County, and an important aspect of open space. Today, the majority of the cropland produces alfalfa and grain, with some pasture. Producers have diversified to produce cantaloupes, other fruits and vegetables, and wine grapes. Cattle and dairies remain a major economic factor.

As the number of irrigated acres declines, there is an effect on farm-related businesses and employment in the community.

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View of the mountains from agricultural land

- **Water**—Water is the most limited resource in the state and water quantity and quality are foremost in priority in any countywide plan. Water supply is dependent upon the snow pack in the Sierra Nevada Range. Water stored in Lahontan Reservoir comes from both the Carson and Truckee Rivers, and is released and diverted as needed. Churchill County only receives about 4-6 inches of precipitation annually.

Water is utilized not only by agricultural irrigators, but it recharges the aquifer for most of the area's domestic, municipal, and industrial wells, generates hydro-power, and supports wildlife and wetland habitat and recreational opportunities.

The water supply in the Valley has been decreasing over the years for many reasons. There are competing users of the water along with pressure from federal agencies to improve irrigation project efficiencies. Water supply forecasts provided by the Natural Resources Conservation Service are based upon thirty-year-old data regarding use. A "100% year" which should supply irrigators with their total water allotment may not supply as much water as needed due to increasing pressures from competing interests and upstream uses. The cumulative effect of all the competing interests has a net result of less water in the Lahontan Valley.

- **Wildlife, wildlife habitat, and wetlands**—There is great diversity in wildlife species and habitat in Churchill County. Stillwater Wildlife Management Area, Stillwater National Wildlife Refuge, and Fallon National Wildlife Refuge support a variety of habitats, including marshes, riverine riparian areas, alkali playas, salt desert shrublands, and sand dunes, which attract nearly 400 species of wildlife, including over 260 bird species. Waterfowl, shorebirds, and other water birds are abundant during the spring and fall migrations. In many years, up to 70 percent of Nevada's migrating waterfowl rely on Lahontan Valley wetlands.

Mule deer are found in the mountain ranges and in the agricultural areas along the Carson River. Pronghorn are scattered throughout the mountain ranges with the highest densities found along the southern and western slopes of the Stillwater Range. The Nevada Division of Wildlife has re-



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established bighorn sheep into many of the historic ranges in Churchill County. The 2001 population estimate for bighorn sheep in Churchill County was approximately 490 animals. Sage grouse, chukar partridge, quail, and wild turkeys are all found in Churchill County.

There also are many non-game species in the County. Many of them are associated with the Carson River and the associated drains and ditches of the irrigation project. There also are species that use the agricultural fields immediately after irrigation (for example, white-faced ibis). Examples of other species found in the Valley are beaver, muskrat, badger, coyotes, owls, eagles, hawks, waterfowl, and many species of birds, reptiles, bats, insects, and fish.

The importance of agriculture to wildlife is immeasurable. The variety of animals living in and around agricultural lands is extensive. Wildlife species thrive where there are large, undisturbed parcels. The riparian zone along the Carson River is critical.



- **Recreational opportunities**—Recreational opportunities abound in Churchill County. The Department of Parks and Recreation manages many programs and recreational areas, including the Regional Park and Fairgrounds, Liberty Pond, and Trails Across Churchill County. There are many parks within the city limits of Fallon, with plans for expansion and improvement.

The Carson River and reservoirs such as Lahontan, S-Line, Harmon, and Indian Lakes provide boating, canoeing, camping, wildlife viewing and fishing opportunities. Stillwater National Wildlife Refuge and Carson Lake Pasture are well known for hunting, bird watching, and photography.

Mountain ranges surrounding the Valley are ideal places for hiking, hunting, camping, pine nut and Christmas tree gathering, and off road vehicle use.

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**Liberty Fish Pond**

- **Rangeland resources**—The Lahontan Valley is surrounded by mountain ranges, the majority of which are managed by the Bureau of Land Management.  
The Dead Camel Mountains, Stillwater Range, Clan Alpine Mountains, and Desatoya Mountains all provide grazing resources, wildlife habitat, hunting and fishing opportunities, hiking and camping, and other recreational opportunities. They also provide a beautiful viewshed and provide citizens with a feeling of “wide open spaces.”
- **Historic landmarks**—There are many sites in Churchill County that are listed on the National Register of Historic Places, from schoolhouses to petroglyph sites and caves. The Newlands Project is over 100 years old and its components are also historic (see Appendix 1 for a list of important historical sites). NRS 376.010 includes the preservation of natural resources and sites that are designated as historic by the office of historic preservation as an open space use.

#### **DEFINING THE PLAN**

In order to develop an effective open space plan, the landscapes that we cherish and the resources vital to these landscapes must be identified. There are two major categories of resources—those within the Newlands Project boundary, and those outside the boundaries.



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Outside the Newlands Project, these landscapes include:

- *Rangeland resources*
- *Historically significant sites*
- *Viewsheds*
- *Wildlife habitats*
- *Recreational sites*
- *Irrigated land outside the Project boundaries, such as those by Lahontan Reservoir using pumped water, those at the other end of the system using Carson River water rights to irrigate, and areas such as Alpine and Middlegate east of the Newlands Project*
- *Stillwater National Wildlife Refuge Complex*
- *Renewable energy (primarily geothermal on BLM and Navy lands)*

The landscapes or features within the Newlands Project include:

- *Lahontan Dam and Reservoir*
- *Irrigation canals, drainage ditches and regulating reservoirs*
- *Wetlands on private lands*
- *Prime/irrigated agricultural fields*
- *Carson River corridor*
- *Carson Lake Pasture*
- *Stillwater National Wildlife Refuge Complex*
- *Lahontan Valley Trail System*

The Newlands Project boundaries are identified in Map 1 and includes the City of Fallon and the urbanizing area around the City. Map 2 shows the major features of the Newlands Project, such as the reservoirs.

Some of these landscapes were a part of the environment before the Newlands Project was developed, e.g., the Carson River. These landscapes provided wildlife habitats and were key to the attraction of the valley as pastureland. Open spaces outside the boundaries of the Newlands Project or those within the project boundaries that are not part of the Project infrastructure, such as city parks, public lands recreation areas, and wildlife habitats, are identified on Map 3. Appendix 1 provides basic inventory data, agricultural trend data to substantiate the decline in irrigated acreage, and a list of important historical and recreational sites in the County.

### EXISTING MEASURES TO PROTECT OPEN SPACE

#### **Churchill County**

The County has existing ordinances to maintain open space and agriculture such as zoning and cluster developments.

Chapter 17.03.010 states that the purpose of zoning is:

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*To promote the public health, safety, morals, convenience, general welfare; to lessen traffic congestion in the streets; to provide light and air for all buildings; to avoid undesirable concentrations of population; to prevent overcrowding of land and to facilitate adequate provision of transportation, water, sewage, schools, parks; to protect, enhance and preserve the county's vast and valuable agricultural lands and related water resources, and to provide for the continued beneficial use of all irrigation waters allocated to lands and other public requirements; and to provide the economic and social advantages gained from a comprehensively planned use of resources.*

Chapter 17.06.155 defines cluster developments as a situation where a parcel is developed to cluster lots for residential uses, while designating the remainder of the parcel or contiguous parcels for agricultural retention or open space. Several landowners in Churchill County have established cluster developments and signed a conservation easement with the County to ensure the non-developed property remains in agriculture.

Dust and Sand Control Requirements—Chapter 17.77 states that any person who has sold or transferred water rights from, or has discontinued irrigation on, a parcel of land consisting of five (5) acres or more situated in Churchill County shall apply to the Churchill County planning department for a dust and sand control permit.

The purpose of the above ordinance is to limit the amount of sand and dust emitted into the atmosphere. Emissions may injure human health or welfare, animals, plants or other property; limit visibility or interfere with scenic, aesthetic and historical values of Churchill County; or interfere with the enjoyment of life or property. Land development design, acquisition of properties, designation of public trails, and other projects must comply with the ordinance.

Right to Farm Ordinance—Churchill County Code Chapter 17.09.010 states:

- A. *The right to farm all land is recognized to exist as a natural right and is also ordained to exist as a permitted use everywhere in the county except where prohibited under this title, subject only to state health and sanitary codes.*
- B. *The "right to farm", as it is used in this section, includes all uses and activities associated with generally accepted farming practices. Examples of some of these activities include, but are not limited to, the use of large equipment, aerial and ground seeding and spraying, and the application of natural and chemical fertilizers, insecticides and herbicides, all for the purposes of producing from the land agricultural products such as vegetables, grains, hay, fruits, fibers, wood, trees, plants, shrubs, flowers and seeds. This right to farm shall also include the right to use land for feed storage, feed lots and grazing by farm animals and dairy operations.*
- C. *The foregoing uses and activities included in the right to farm, when reasonable and necessary for the particular farming, livestock or fowl production, and when conducted in accordance with generally accepted agricultural practices, may occur on holidays, Sundays and weekends, at night and in the day, and the noise, odors, dust and fumes that are caused by such activities are also specifically permitted as part of the exercise of this right.*
- D. *It is expressly found that whatever nuisance may be caused to others by such uses and activities so conducted is more than offset by the benefits from farming to the neighborhood and community, and to society in general, by the preservation of open space, the beauty of the countryside and clean air and by the preservation and continuance of farming operations in the county and the state as a source of agricultural products for this and future generations.*

#### **U.S. Fish & Wildlife Service**

The Stillwater National Wildlife Refuge Complex is managed by the U.S. Fish & Wildlife Service (USFWS). The USFWS is responsible for planning, implementation, and monitoring. Public involvement is encouraged during the planning process.

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### Bureau of Land Management

The mountain ranges surrounding the valley are managed by the Bureau of Land Management (BLM). The BLM has a land use plan and encourages input and participation from all residents and entities within Churchill County.

### U.S. Navy

Zoning by the County has attempted to keep the density of houses around the base low for safety reasons. In order to prevent an increase in density, the Navy may consider programs such as purchase of development rights, conservation easements, and a system of trails and buffer zones. The lack of houses immediately adjacent to the base increases the amount of open space and wildlife habitat.

### Wetlands

Wetlands are regulated by the U.S. Army Corps of Engineers and a landowner must receive a permit to develop property within a designated wetland. There also may be mitigation requirements, either on-site or off-site.

### Carson River

The channel of the river, up to the average high water mark, is owned and managed by the Nevada Division of State Lands. An adjacent landowner must receive permission from the Division to do any work in the channel itself and also may need a permit from the Army Corps of Engineers.

## USING THE PLAN

This Open Space Plan is part of the Churchill County Master Plan. As such, it will provide a coordinated guide to the County, City, and other agencies for change over time. It is understood, that while making decisions, not all the goals and policies will be met to the same degree. The Plan is flexible and should be amended and altered as circumstances change, but it puts on record **the community's desires and goals to preserve its rural lifestyle while ensuring both a quality of life and sustainable community.**

There must be a balance between competing interests in Churchill County, with the net result being a healthy, sustainable community. There must be compromise and cooperation. For example, agricultural interests may continue to explore low water use crops, or the County may begin to require the installation of community water systems to help lessen dependence on surface water and reduce the number of septic systems.

It also is important to note that the protection of open spaces does not occur in a vacuum with no effect on other resources or people. A piece of land that has been cleared of vegetation or has had the water rights removed may contribute to soil erosion, weed infestations, and other problems in the area. Therefore, this plan advocates responsible management of open spaces, not lack of management.

The Open Space Plan will be used in the new development review process. Developers will be encouraged to provide methods to conserve open spaces and irrigated acres, utilize renewable resources, and create parks, trails, and other projects that retain the quality of life currently enjoyed in Churchill County.

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Management of open spaces will require cooperation and coordination among the many entities involved with resource protection and management. Examples of coordinated planning are:

- The Churchill County Parks and Recreation Department is responsible for designating appropriate regional parks and implementing the Lahontan Valley Trail System. When projects are designed and approved, the Department should work with the County to determine whether or not it should be included in the Open Space Plan.
- The Bureau of Land Management is developing an amendment to its land use plan. This involves a detailed analysis of the resources, including cultural resources, wildlife, endangered species, grazing resources, and public access. The County and the Navy must participate in this exercise and determine what information from the BLM should be included in the County Open Space Plan. For example, designation of wilderness areas, designation of off-road vehicle use areas, etc.
- The U.S. Navy is interested in providing an adequate buffer around the Naval Air Station to prevent encroachment. This may include green space, which will remain in irrigated agriculture, or it may be recreational trails or other options. The County and the Navy should work together to identify these areas.
- Conservation Districts, USDA Natural Resources Conservation Service, and private landowners have been cooperating for the last 50 years to promote and install conservation practices on farmland, wildlife lands, rangeland and other lands.

#### CRITERIA FOR OPEN SPACE PLAN COMPONENTS

The resources that this plan is attempting to conserve and sustain are outlined in another section. However, there must be certain criteria by which resources and projects are judged in order to prioritize them. Important factors to consider when considering a project are:

- Resources—a project must attempt to help maintain, enhance or sustain one or more of the following resources while not creating a significant adverse impact on other resources:
  - Agriculture
  - Wildlife habitat
  - Wetlands and riparian areas
  - Viewshed
  - Historical/cultural resources
  - Water—aquifer recharge, flood protection
- Accessibility to the public
- Connection to existing open space, such as the Lahontan Valley Trail System
- Support from the public
- Interagency cooperation
- Funding
- Consistency with the Open Space Plan and the Master Plan
- Potential benefits to the community

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### IMPLEMENTATION

Implementation of the Open Space Plan can be accomplished by support of programs and projects by County administration, cooperation with other agencies and groups, and by specific actions that the County Planning Department and Planning Commission can accomplish. The tools and mechanisms to implement this plan have been divided into eight categories, with specific objectives outlined in each category. It is understood that each category includes an education component to provide information to residents concerning each of the programs and to encourage community support. As projects and programs are implemented, the Open Space Plan will be updated or amended as necessary.

#### **1. Support agricultural programs that promote sustainable agriculture:**

Agriculture provides economic benefits and jobs, reduces soil erosion and weed infestation, provides wildlife habitat and open space, and recharges the groundwater aquifer.

- Support the Newlands Water Protective Association and other agricultural groups and their projects, such as AgExpo.
- Support the Small Business Development Center.
- Support crop diversification programs and groups, such as the Churchill Grape Growers.
- Support Churchill Economic Development Authority (CEDA) efforts to encourage agriculture related industries to relocate to the area.
- Support alternative energy sources based on agricultural products.
- Support the development of a Cooperative Weed Management Area and other weed control programs.
- Support education programs, such as Ag in the Classroom, FFA, and 4H.
- Support the efforts of Lahontan and Stillwater Conservation Districts to provide assistance to landowners regarding soil and water conservation practices, irrigation efficiency analysis, and agricultural sustainability.
- Support vegetation conservation and enhancement programs such as the carbon sequestration program.

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- Support water conservation programs such as those of the conservation districts, Truckee-Carson Irrigation District, and the Bureau of Reclamation.

### **2. Support river corridor restoration projects:**

A healthy river corridor provides recreation, wildlife habitat, hydro-power, a water delivery system, good water quality, and a scenic area.

- Develop standards to prevent degradation of the Carson River corridor in new land divisions and residential developments.
- Support Churchill County Weed Abatement District and Lahontan Conservation District programs to control noxious weeds in the river corridor.
- Support the Lower Carson River Coordinated Resource Management Project sponsored by Lahontan Conservation District.
- Support efforts to purchase property along the river to develop a learning center.
- Support programs sponsored by the Carson Water Subconservancy District to restore and maintain the river corridor.
- Support the Lahontan Valley Environmental Alliance as local coordinator of "Question 1" grant monies administered through the Nevada Division of State Lands and the Carson Water Subconservancy District.
- Develop floodplain management strategies.

### **3. Cooperate with the Bureau of Land Management to maintain public lands in the viewshed:**

Land managed by the Bureau of Land Management provides a viewshed, wildlife habitat, recreation opportunities, and grazing resources.

- Participate in decision-making processes related to public lands by attending cooperator meetings and providing comments to Environmental Impact Statements and Environmental Assessments.
- Provide information and input for the BLM Resource Management Plan amendment.
- Identify BLM properties in the County that the community wants to remain in public ownership and those that may be eligible for disposal.

### **4. Promote land development design that provides for adequate open spaces and park areas:**

Provisions for open space and parks in developments provide wildlife habitat, recreation, and may aid in aquifer recharge if the open space is irrigated.

- Adopt provisions of State Statutes that require developers to provide sufficient open space and park areas in proposed residential developments or provide equivalent financial resources to provide parks and recreation facilities to meet the community's needs based on the Parks and Recreation Master Plan.
- Seek to provide multi-use facilities which incorporate open space, active and passive recreation opportunities, maximize access to water resources, maintain wildlife habitat, provide trails, and maximize maintenance resources.
- Preserve and utilize Newlands Project canals and reservoirs to provide recreation, trails, and wildlife habitat.
- Preserve and/or acquire recreation and open space easements along the Carson River corridor and around Soda Lake.
- Promote cluster developments.
- Retain low-density residential use around the Fallon Municipal Airport and NAS Fallon.

### **5. Promote land development design that provides for adequate sewage and water distribution systems:**

A countywide water and sewer system will conserve water and prevent groundwater pollution from septic systems.

- Develop County Codes that address the effects of new residential developments on water quantity and quality.
- Develop County Codes that provide guidance to developers in providing necessary water and sewer systems.
- Apply for grants to begin countywide water and sewer systems.
- Ensure aquifers serving existing domestic wells are recharged until alternative services are provided.

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### **6. Implement conservation easements:**

Conservation easements provide an alternative to landowners who may need financial assistance but would like to remain in farming. Easements also retain wildlife habitat and open space, and continued irrigation helps to maintain the aquifer.

- Explore funding opportunities to pursue the promotion and purchase of conservation easements that preserve open space by conserving agricultural lands and valued wildlife habitat.
- Identify an administrator and funding sources for maintenance of conservation easements.

### **7. Transfer and purchase of development rights:**

Purchase of development rights (PDR) programs helps to ensure that an area will never be developed. It helps to retain wildlife habitat and open space, and the continued irrigation helps to maintain the aquifer.

- Explore funding sources to pursue PDR projects.
- Identify an administrator and funding sources for PDR programs.

### **8. Support NAS Fallon plans and projects that coordinate with the County's plans:**

Cooperation between the Navy and other agencies is crucial to assuring that the Navy Base has enough room to continue its operations and to grow, if desired.

- Coordinate land use planning in the buffer zone area around NAS Fallon to maintain low housing density in flyover areas.
- Support Navy projects to maintain open space in buffer areas around NAS Fallon.
- Support Navy projects to create bike trails, wildlife viewing areas, etc. in buffer areas.
- Aid the Navy in applying for funding for cooperative open space projects.

### **9. Support development and use of renewable (green) energy sources such as geothermal, wind and solar.**

- Coordinate with Federal agencies promoting renewable resource development
- Optimize economic benefit and environmental protection for Churchill County.

## RESOURCE INVENTORY

### RESOURCES AVAILABLE TODAY

Irrigated acreage 2002: 59,000 acres ±

Amount of water delivered by TCID to farmers in 2002: 192,311 acre-feet

Lands of statewide importance: 69,000 acres ±

Prime farmland: 39,000 acres ±

Amount of water coming down Truckee Canal from Truckee River--30-year average - 116,000 AF/year goes into Lahontan Reservoir from Truckee River.

This number will steadily decrease with OCAP, WQ Settlement Agreement, and upstream pressures on Truckee River.

Agricultural acreage lost to development: 9,395 acres

Number of parcels in County 1992: 8,961

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Number of parcels in County 2002: 11,781  
Water rights owned by County: 405 acre feet

**Table 13-1 Agricultural Trend Data**

<u>Year</u>	<u># Farms</u>	<u>Land in farms (ac)</u>	<u>Ave farm size (ac)</u>	<u>Cropland Acres</u>
1978	464	338,252	729	not available
1982	497	356,330	717	64,023
1987	542	366,213	676	63,386
1992	529	268,043	507	56,921
1997	511	129,058	253	53,933

### Historic Places, Churchill County

Cold Springs (Rock Creek Station)  
Grimes Point  
Stillwater Marsh  
Humboldt Cave  
Cold Springs Pony Express Station  
Sand Springs Pony Express Station  
Ocala Cave  
Carson River Diversion Dam-Carson River  
Lahontan Dam & Power Station  
Lovelock Cave  
Harmon School  
Oats Park School  
Stillwater School  
Soda Lake

### Recreation Areas

Lahontan State Recreation Area  
Grimes Point/Hidden Cave Archeological Area  
Sand Mountain Recreation Area  
Trails Across Churchill County (TRACC)  
Regional Park and County Fairgrounds  
Stillwater Wildlife Management Area  
Lower Carson River  
Liberty Pond and Park  
Carson Lake Pasture  
Indian Lakes/Likes Lake  
Harmon Reservoir  
Sheckler Reservoir  
Old River Reservoir  
S-Line Reservoir  
Soda Lake  
Unmaintained dirt roads



### GOALS:

1. *Implementation of the Master Land Use Plan/Growth Management Plan*
2. *Provision of cost effective and adequate utilities to serve the urbanizing development*
3. *Protection of our water resources, watersheds, and open spaces*

The responsibility for land use planning has been delegated to counties and cities by the State of Nevada. Through the development and implementation of the land use plan, county government is attempting to provide for the health, safety, and welfare of the area's present and future residents.

The term "land use" can include all aspects of occupying, exploiting, or modifying the surface of the earth. This element focuses largely on the more intense types of use, especially those requiring building construction, public utilities, and government services. Development activities by both the public and private sectors are subjects of concern.

As indicated in the Population Characteristics element of this Master Plan, the population of the County is anticipated to continue increasing during the twenty year planning time frame. Most of the new businesses and residents have moved here from larger urban or metropolitan areas. This urban-to-rural migration is a nationwide trend and is likely to continue.

Despite some natural limitations and localized constraints, such as the uncertainty of the water allocation and the large areas of land controlled by federal government agencies, Churchill County has sufficient space and resources to meet the needs of future development and continued growth over the 20 year planning period (1990-2010). It is important that this anticipated future growth be accommodated while maintaining the quality of life currently enjoyed by the County's residents.

The land use plan developed in the 1990 Master Plan supported a concept to provide for commercial, industrial, and residential expansion by concentric expansion from the existing

urban center of Fallon. This concept satisfied the then-stated goals by:

- a. allowing for gradual expansion of the County's services as the growth occurs and not requiring the provision of remote facilities,
- b. retaining farmland for agricultural use,
- c. directing urban development to vacant parcels in existing areas of like development,
- d. preserving the County's agricultural and open spaces and the character of Churchill County,
- e. providing greater financial justification for the future development of county or joint city/county services such as water and sewage,
- f. providing justification for increased joint city/county planning efforts.

In anticipation of accelerated growth and the need to prepare for the provision of efficient public services and facilities while ensuring protection of our water and other valuable resources, Churchill County embarked on the development of a County-owned water and sewer system in 2003. At the same time and during the following two years, major revisions have been made to the zoning and land division codes and ordinances to ensure the new growth is not a tax burden to existing residents but also that new growth is designed to be compatible with the existing low-intensity development and is of a design and character consistent with our rural life style and high quality of living.

A Master Land Use Plan/Growth Management Plan Map (14-1) has been developed to guide future development of Churchill County. The Master Land Use plan identifies the northwest quadrant of

## 14. LAND USE

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the County as an area, where, over time, water and sewer services will be provided to accommodate higher density residential and commercial growth. Within this urbanizing area, the Master Land Use Plan identifies potential sites for parks, schools, and utility treatment facilities. Development must still be encouraged by concentric expansion to ensure cost effective provision of public services.

The continued preservation of the County's agricultural and open spaces must be protected by careful designation of scenic areas, protection and enhancement of the Carson River corridor and other valuable resources, development of functional open spaces within the urbanizing area and by guiding future urbanizing development **away from** the County's important wetland and wildlife refuges in the north and southeast areas of the County. The Master Land Use Plan designates these areas and the area around NAS Fallon and west toward Lahontan reservoir for **low-intensity uses**. Agricultural uses and open spaces should be promoted in this area to protect the County's water resources and preserve the County's important farmlands, wildlife, and open spaces. Residential growth that requires provision of water and sewer services and is of an intensity that is incompatible with watershed protection should not be permitted. Any development of a type and intensity that would compromise the mission of NAS Fallon should be discouraged within the one-mile buffer zone area identified around the base.

Economic growth and vitality is based upon a strong, stable and diversified economy that provides a wide range of employment and investment opportunities. An expansion of the industrial base will be necessary to provide sufficient employment opportunities and strengthen the County's economic base. The Master Land Use Plan designates the western area of the County and areas on US 95 north for industrial development. Access to a railroad network and US50 and proximity to I-80 in this area are important facilities for the promotion of industrial activity.

When reviewing a project for consistency with the Master Land Use Plan, consideration must be given to the Master Plan as a whole. Implementation of the Master Land Use Plan must be

coordinated with programs and policies that support agricultural preservation, promote economic development and promote livable attractive neighborhoods. Coordinated planning efforts with the City of Fallon will be essential for the provision of cost effective public services, utilities and infrastructure.

### OBJECTIVES:

1. Implement requirements for water and wastewater services for all new development and provide flexible design options (i.e. density and lot sizes) to offset increased development costs.
2. Encourage and support programs and efforts to protect agriculture and open spaces
3. Encourage higher intensity development in area where water and sewer services and public services can be provided efficiently and cost effectively.
4. Coordinate planning efforts with the City of Fallon.

## 14. LAND USE

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### HAZEN TOWNSITE

- GOALS:**
1. Enhance Hazen's identity and encourage quality development. Hazen is close to the western border of Churchill County and as such sets the regional identity of the County. This Master Plan is intended to provide for Hazen's a positive image as a gateway to Churchill County.
  2. Enhance economic and employment development. Ensure all approved developments are appropriate to the environment, locale, infrastructure and Churchill County's Master Plan.
  3. Redeem and foster Hazen's historical components.
  4. Ensure that any new development provides infrastructure and utilities services adequate for the health and safety of residents and employees located in Hazen and Churchill County.

Hazen is located on Highway 50 on the western border of Churchill County. Hazen was named for Brigadier General William Babcock Hazen, who achieved military recognition in the Civil War at Shiloh and at Stones River, where the oldest Civil War Monument is dedicated to Hazen's Brigade. His additional accomplishments included scientific research in technical areas related to agriculture, weather, and polar exploration.

It is believed the Hazen community was settled as early as 1869 close to the route of the Central Pacific Railroad. With acquisition of Central Pacific by Southern Pacific Railroad and the re-routing of the railroad line between Wadsworth and Lovelock in 1902, Hazen was founded as a railroad station and a stop on the mainline. Throughout the first decade of the twentieth century, Hazen grew in importance as a railroad town.

In the first half of the decade, with plans for construction of a canal between the Truckee River and the Carson River, Lahontan Reservoir and the Newlands Irrigation Project, Hazen became the principal location and junction for materials consignment. The railroad laid out the townsite in 1903 and the plat was filed in Fallon in 1905. Lots were offered for sale to the public. Several saloons, stores, a hotel, post office, and an office of the U.S. Reclamation Service were built in Hazen by 1904. As the population of canal laborers residing in Hazen increased so did the population of criminals taking advantage of the

booming community and the lack of law enforcement at that time.

Southern Pacific built a depot, roundhouse, and terminal in Hazen. Serving the northern terminus for freighting to Tonopah and Goldfield, and the railhead, until the line was extended to Fallon, for freight wagons supplying Churchill County's boom towns of Fairview and Wonder and enabling farmers of the Lahontan Valley means of shipping their produce.

In 1908, a fire almost destroyed the business district. The town was rebuilt with an elegant hotel, the Palace Hotel. Hazen had matured from its rough period into a small trading center of approximately 250 residents.

With automobile and trucking leading to a decline in rail traffic, Hazen has declined. However, there are new opportunities offering revitalization of the Hazen location. Expansion of economic and industrial developments in the Reno, Sparks and Fernley areas is extending from the west into Churchill County. Hazen Townsite is conveniently located only twelve miles from the intersection of U.S. Alt. 50 and U.S. Hwy. 80; and it is surrounded on the west, north and east by undeveloped open land.

### PLAN AREA FACTORS

## 14. LAND USE

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### Existing Land Use and Zoning

The townsite area is 157.41 acres. This includes approximately 74 acres of railroad and highway right of way leaving approximately 83 acres for development and streets. The area of 33 block is divided into small parcels, the configuration and size of these parcels varies due to the irregular shape of the townsite and dissection by the railroad and highway, but the majority of parcels are rectangular with a standard size of 50' x 130'. With the exception of parcels 10-284-01 and 10-284-02 (bounded by Tahoe, Utah, Canal, and Townsend), which are zoned M1 - Industrial, the remainder of the townsite is zoned A3 - Agricultural. Contiguous property to the north of the townsite is zoned M1. The remaining property to the north is zoned RR - Rural Reserve. Property to the south is zoned either A3, where ranching is in operation, or RR. To the northeast are sections zoned RR, and in the southeast are large parcels zoned RR and M1. With the exception of the existing ranches and the remaining homes of the townsite, the vast majority of land in the Hazen area is undeveloped.

### Access

Access to Hazen is excellent with its adjacency to U.S. Alt 50 and its proximity to U.S. Hwy. 80. Nevada Department of Transportation has issued notice of intent to widen U.S. Alt 50 from two to four lanes from Leetville Junction to Fernley. The current alignment of U.S. Alt 50 through Hazen bisects the townsite. Ideally, it would be in the best interest of the Hazen community to realign the highway to the southern edge of the townsite. This realignment and appropriate turning lanes would provide improved pedestrian and vehicular safety and traffic control for ingress and egress into and out of the townsite. In addition, it would facilitate the development of the townsite into one cohesive locale. The townsite area is not large and the current bifurcation by the highway limits its potential usage and development.

The railroad link provides a service, which would support economic and employment development to the area as it did in the past.

### Infrastructure

#### Water

Surface water serving agricultural use is available from the Truckee Canal. Also from this source, water is piped to the townsite. For this to provide adequate quality and quantity of potable water, a considerable investment must be made in a water treatment system. The extent of water rights available and adequate for increased development is unknown.

Ground water is heavily saline and has other mineral content even to a depth of more than 1,000 feet. Consequently, this source also will require treatment for its suitability as a potable supply.

While the supply of both adequate quality and quantity of water currently is undetermined, it is reasonable to assume that proper technical solutions can be applied to ensure the provision of a healthy water supply to the townsite for the needs of future development. Such development will bear responsibility for providing the necessary water supply.

#### Sewer

Sewage disposal currently is by individual systems. Any future development will necessitate evaluation and provision of sewage disposal adequate for the development's needs and will be the responsibility of the development.

#### Streets

Streets within the townsite are unpaved and do not exactly follow the plat of the townsite. Where parcels are vacant and under common ownership, realignment of streets and parcels will provide the opportunity for increased land use.

Construction of streets and sidewalks will be required to the standards and approval of Churchill County.

#### **Public Services**

All public services - police, fire, and administration - to Hazen are provided from centralized operations located in Fallon. No new facilities are planned for Hazen.

### APPROPRIATE LAND USES FOR THE HAZEN TOWNSITE

Key factors in determining appropriate land uses for Hazen are:

- \* the location of Hazen as a major gateway position to Churchill County,
- \* the remaining historical basis of Hazen as a major four-way junction of routes east and west, and north and south,
- \* the economic and population growth of the region, and
- \* the limited size of the townsite.

With realignment of U.S. Alt 50, the townsite can be one homogeneous unit of development. The Hazen Townsite will be designated as a "Special Planning Area", for which appropriate design standards are established. Owners of residences and other facilities currently existing in the Special Planning Area, which are not in conformance with the established design standards, will work with Churchill County Planning Department to develop plans to bring their facilities into conformance.

The townsite will have intense uses. These can include commercial (retail, restaurant, farmers' market), traveler services, historical/cultural interpretive center, live-work artist space, residential. One or two attractively landscaped centralized parking areas should be provided, encouraging a pedestrian environment throughout the townsite area.

The area surrounding the townsite to the north is anticipated to be industrial/employment or rural reserve. It is important that any development in this area provide for an appropriate buffer zone to the townsite.

The south boundary of the townsite is adjacent to agricultural land and is appropriate for highway landscaping to act as a buffer zone between the highway and the agricultural usage.

A highway-landscaping project should be initiated for the area along the perimeter of U.S. Alt. 50 for a distance of one mile on either

side of the townsite. Churchill County is recognized as the oasis of the desert and warrants a gateway, which reflects this.

Traffic control along U.S. Alt. 50 can be accomplished initially by a speed control zone and turning lanes. As traffic volumes necessitate, this may require signalization.

### SPECIAL PLANNING AREA

This land use designation allows any individual land use, or land uses in combination, which are compatible and complementary within the project boundaries and to adjacent properties. The Special Planning Area is designated to allow flexibility in land use, adjustment to transition to higher use, or where Churchill County wishes to encourage potential for additional investment.

All new and alteration projects within the Special Planning Area shall require Special Use Permit Application. This Hazen Townsite location is appropriate for designation as a Special Planning Area with emphasis on highway commercial land uses, which include such uses as general retail, food and beverage service, public services and facilities, recreation, and cultural facilities. The County recognizes that not all properties will be ready for development at the zoning intensity, which is most consistent with the overlaying land-use objectives.

It is the intention of Churchill County to maintain a sound infrastructure; a thriving mix of land use activities; and support private investment decisions, which promote public objectives. Consequently, any proposed development shall include provisions for approved services and infrastructure: potable water supply and quality, a fire protection water supply, waste water treatment, utilities, and paved streets, curbs and gutters.

### DESIGN STANDARDS

The desired concept for the Hazen Townsite is to provide a positive reflection of and historical gateway to Churchill County. The design guidelines are aimed at establishing criteria to:

## 14. LAND USE

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- A. Establish and maintain high aesthetic standards appropriate to the Townsite's use,
- B. Preserve the best of the County's history, natural beauty and visual character,
- C. Ensure compatibility and complementary development of each Townsite use,
- D. Provide shared infrastructure elements: entrances, parking, common areas, signage.

**Materials:** To be consistent with the turn-of-the-century northern Nevada design - wood, brick.

**Exterior Colors:** Off-white, earth tones suitable for withstanding effects of weather. Accent colors can be used where appropriate.

**Maximum Height:** Not to exceed thirty-five feet.

**Screening:** All mechanical equipment and garbage containers, except where not visible from the exterior of the buildings, shall be enclosed within the building or screened from view by materials comparable with those of the building or by vegetation.

**Landscape:** Landscape requirements shall, at a minimum, conform to the standards as required by the Churchill County C-2 General Commercial District landscape requirements. Landscape areas shall be maintained to the standard as approved by the Special Use Permit.

**Parking:** The desired environment is to be oriented towards ease and safety of pedestrian movement within the Townsite. Consequently, no on-street parking except for deliveries will be allowed and common use parking areas will be designated. Where possible, delivery service will be accommodated at the rear of the buildings.

**Signage:** Townsite identification monument signage will be at the east and west boundaries of the Townsite.

Building identification signage or advertising devices will be attached to the building, must not extend above or beyond the wall or surface to which they are attached, and may not project more than one foot from the wall.

No off-premise signs are allowed.

Signage must be maintained at the standard as approved by the Special Use Permit.



MAP 14-1  
CHURCHILL COUNTY  
MASTER LAND USE PLAN /  
GROWTH MANAGEMENT PLAN



- Legend**
- County Line
  - City of Fallon
  - Tribal Reservation Land
  - NAS Fallon Boundary
  - Silverstar National Wildlife Refuge
  - Proposed Silverstar National Wildlife Refuge
  - Property Lines**
    - Other Properties
    - BLM / Public Domain
    - Roads and Right of Ways
    - Lakes
    - Carron River
    - Creeks
    - Ditches
    - Proposed Road
  - Planning Boundaries**
    - AGRICULTURE 1 year 5 Acres
    - BASE BUFFER / AGRICULTURE
    - INDUSTRIAL
    - URBANIZING up to 10 lots/acre
    - Stand Alone Area - Hazen & Dwight Beach
    - River Corridor

Proposed Residential Parcel  
In the Urbanizing Area 17,174.25 Acres  
Per 1000 sq. Feet  
Per 1000 sq. Feet

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## 15. POLICY PLAN FOR PUBLIC LANDS

### BACKGROUND:

In 1983, the Nevada State Legislature enacted Senate Bill 40 to take advantage of the accommodation provisions {Section 202(c)(9)} in the Federal Land Policy and Management Act (FLPMA). This section of public law requires the Bureau of Land Management to develop land use plans consistent with state and local land use plans to the extent that the Secretary of the Interior finds these consistent with federal law and the purposes of FLPMA. SB40 directed the State Land Use Planning Agency, with cooperation from state agencies and local governments throughout the state to prepare plans and policy statements concerning the acquisition and use of lands in Nevada which are under federal management and/or ownership. The purpose of this effort is to increase the role of Nevadans in determining the management of public lands. With such a large percentage of state land under control of the federal government, it is important that the federal land managing agencies understand and address the concerns and needs of Nevada. The final documented policy plan was completed in June 1985. Churchill County, as part of this effort, developed the "Churchill County Policy Plan for Public Lands." This was reviewed and adopted by the City of Fallon City Council and The Churchill County Board of County Commissioners on June 4, 1985 and June 6, 1985 respectively. The legislation did not provide for periodic updating of the plan. Churchill County will continue to review and update its policies with respect to federal lands as part of the Churchill County Master Plan process.

### LAND OWNERSHIP

The federal government controls over 82% of the land in Churchill County. Only approximately 13% of the land in the county is on the tax roll. Data in the following table is as of March 2003.

**Table 15-1**

Land Area	Acres	Percent of County
Federal	2,706,841	86.0
BLM	2,608,958	83.0
Bureau of Reclamation	8,347	0.27
Military & other	13,817	0.44
US Government (incl. Postal)	45,620	1.45
Tribal	50,890	1.62
State	8,113	0.25
Local Government	35,349	1.12
TCID	4,275	0.14
Private Lands	423,346	13.46
<b>Total County</b>	<b>3,144,320</b>	

### POLICIES

The Churchill County Policy Plan for Public Lands is a guide developed by the citizens and local government entities regarding the use of public lands in Churchill County. The plan addresses federal land use management issues and is intended to be used as a positive guide for federal land management agencies in their development and implementation of federal land plans and management actions. The county and citizens support the continued multiple use of the public lands in Churchill County. The policies are intended to further agriculture, mining and recreation as principal economic bases of the county. Churchill County is desirous of cooperation from the Bureau of Land Management in being guided by these policies. The county commission should be consulted on any interpretation of these policies.

## 15. POLICY PLAN FOR PUBLIC LANDS

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### **Federal Lands**

Manage and utilize public lands on the basis of multiple use and sustained yield concepts and in a manner that will conserve natural resources, protect and preserve the quality of life, and provide for long-term benefits for the people of Churchill County and future generations.

#### **Policies:**

1. Federal land disposals should be in conformance with local land use plans. The general public and state and local governments should be included in all federal land transactions. Local government concurrence should be granted prior to any transactions.
2. Some public lands near existing communities should continue to remain as public lands, or be set aside for public uses, such as school sites, parks, golf courses, and open space, etc.
3. Public lands within municipal service areas of existing communities should continue to be made available for housing and industrial sites. These lands should be transferred only when local governments agree that the transfer is opportune and would not be a burden to local governments.
4. Public lands managed by federal agencies should continue to be made available for state and local government purposes.
5. Lands which have recreational, cultural, wildlife, or have other public values should be retained in public ownership.
6. Any public land withdrawals or special use airspace designations for Department of Defense purposes should be made available for grazing, mining, geothermal energy production, recreation and other public uses compatibility with required safety for flight operations and military use to the extent practicable.
7. Federal land disposal laws should be modified to allow public lands to be made available to local governments, and private interests in order to reduce the amount of public

lands under federal agency control. Local governments should be allowed to develop or dispose of the lands to private interests to allow recovery of capital and infrastructure costs.

8. In general federal land transactions in Churchill County should only occur in a manner that; 1) results in an increase in the private land base and does not result in a reduction of additional irrigated lands, and 2) is consistent with the County's open space plan.
9. In cooperation with the Bureau of Land Management, and BOR develop a plan that identifies specific public lands available for disposal.
10. Oppose policies that seek to convert private lands in Churchill County to public lands in order to create development opportunities outside Churchill County.

### **Access and Transportation**

Develop and maintain a transportation network that maximizes the accessibility and minimizes the cost of movement between all communities and across public lands.

#### **Policies:**

1. Whenever public lands are disposed of, existing access to adjoining or nearby public lands should be retained for recreational and other multiple use needs. Alternate routes of access may be necessary in some instances.
2. Public access should be acquired to important recreational, wildlife, or other public interest areas.
3. Corridors for the future transmission of energy, communications and transportation need to be planned for in harmony with other uses on public lands. Preference should be given to existing corridors. Corridors should have multiple uses kept to as few a number and length as possible.
4. Access should be maintained and provided to all private, state and local government in-holdings.
5. Maintain existing road network including RS2477 Roads and trails used by vehicles. Roadless designations should be discouraged.

## 15. POLICY PLAN FOR PUBLIC LANDS

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### **Recreation**

Conserve and protect scenic, historical and recreational resources.

#### **Policies:**

1. Dispersed recreational opportunities on public lands should be encouraged. Opportunities for unstructured recreation such as camping, fishing, hunting and off-road vehicles (ORV's) in Churchill County on public lands should continue to be made available.
2. Public lands with value for concentrated recreational use (campgrounds, historic sites, water recreation sites, etc.) should be identified, protected, developed, and adequately maintained for recreation purposes. Federal recreation facilities should be provided near population centers. Military lands in Dixie Valley should be considered for recreational development where compatible. Such land could be transferred to the County under the Recreation and Public Purposes Act.
3. Public lands should remain open to off-road vehicle use. More intensive management of off-road vehicle use should only be considered for areas that experience relatively high use such as Sand Mountain.
4. The Pony Express Trail, the Forty-Mile Desert portion of the Emigrant Trail, the Desert Queen Mining District, Grimes Point and other cultural resources should be protected to the maximum extent possible under federal regulations.
5. An adequate amount of water should be provided to support an enhanced level of recreational uses at Lahontan Reservoir for boating, fishing, and water skiing etc.

### **Mineral Resources**

Recognize that the development of Nevada's mineral resources is desirable and necessary to the nation, the state and Churchill County. Retain existing geothermal and mining areas and promote and encourage the expansion of these operations and

areas. Accept the environmental protection provisions of the State of Nevada as being a satisfactory standard of protection forgoing burdensome additional, local requirements.

#### **Policies:**

1. There should be reasonable access to lands where the mineral estate is in federal ownership.
2. The expansion and development of geothermal resources should be promoted on lands under federal land management.
3. Recognize geothermal production as an important component of a national energy policy.
4. Support a permitting process that is consistent and eliminates unwarranted delays in site development.
5. Mining Law reform should support a national minerals policy that promotes a strong domestic mining industry in Nevada.

### **Wild Horses**

Manage wild horses to minimize detrimental impacts on other multiple uses and pursue resource enhancement where needed to correct wild horse damage.

#### **Policies:**

1. Wild horse and burro appropriate management levels (AML) for each herd management area should be set based on 1971 population levels. Wild horse and burro populations should be reduced to and maintained at the AML [Wild Horse and Burro Act of Dec. 15, 1971 (85Stat.649,651)]
2. Laws and regulations on wild horses should be amended to allow greater flexibility for disposal and adoption of wild horses.
3. Requirements that wild horses be removed from private lands and maintained in herd management areas should be strongly enforced.

## 15. POLICY PLAN FOR PUBLIC LANDS

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### **Wilderness**

Wilderness designation or recommendation should be made only where the values of wilderness designation are capable of balancing the other resource values and uses which would be foregone due to wilderness designation.

#### **Policies:**

1. Only areas that could be managed as wilderness should be considered for wilderness designation; boundaries should be easily identifiable on the ground and should not cut off needed access ways. Areas should be evaluated on a case-by-case basis with local evaluation and approval.
2. Overlying air space and use should be taken into consideration in wilderness study area recommendations and designations.
3. Wilderness study areas, which will not be further considered for wilderness, should be returned to multiple use as soon as possible.
4. If any areas are designated as wilderness, the enabling legislation should include language which will eliminate any consideration of "buffer" area concepts.

### **Agriculture**

Preserve agricultural land and promote the continuation of agricultural pursuits in Churchill County. Agricultural production in Nevada is and will be necessary to help meet the requirements of future state populations and is important to Churchill County's economy and ecosystem.

#### **Policies:**

1. Formally recognize the value of and necessity for the retention and expansion of agricultural land by all levels of government.
2. The federal government should continue to make the public rangelands available for livestock grazing and recognize that livestock grazing can be beneficial to the environmental

quality of rangelands.

3. Highways should be fenced to restrict livestock from wandering onto them. Priority should be given to highways near urban areas.
4. Federal agencies should assist and encourage the transfer of water rights within the same basin for areas in the path of urban development to allow for the continuation of agricultural uses.
5. A key consideration in the transfer of water rights to public lands should be that it is designated for multiple uses not a single designated use.

### **Wildlife**

Identify, and make proactive efforts to ensure that additional species will not be listed as threatened or endangered. Sage Grouse management plans are being developed for Churchill County. Sage Grouse can be found in three mountain ranges, Stillwater, Desatoya, and Clan Alpine Mountains.

1. Support local efforts to resolve sage grouse management. Compensation for affected public land users should be provided, if warranted.
2. Incentives should be provided to private landowners and public land users to protect and/or enhance sage grouse habitat.

### **Forestry Management**

Encourage further development and promote the continuation of forestry pursuits in Churchill County.

#### **Policies:**

1. Federal land management agencies should identify sufficient areas for wood products, such as firewood, fence posts, and Christmas trees, in close proximity to existing communities and insure adequate access to allow harvesting.

## 15. POLICY PLAN FOR PUBLIC LANDS

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### **Specific Lands Identified for Non-Federal Ownership**

Public lands should be made available for state, local government and private uses. They should be made available when the need is apparent, when compatible with local government plans and after public review.

#### State and Local Government:

The following lands have been identified for possible disposal for state or local purposes:

1. Recreation Area near Dixie Valley in Dyer Canyon  
Township 21-22 North, Range 37 East 5 acres

#### Private:

Public land adjacent to existing communities should be made available for housing and industrial needs. The policies in this policy plan for the public lands give direction on which lands should be disposed of by the federal government. Disposals must be in coordination with local government officials and agencies. There should be extensive public involvement and concurrence in the identification of lands for disposal. As specific parcels of public lands are proposed for disposal, site-specific information must be made available to the public and environmental assessments must be developed.

### **CONCERNS ON FEDERAL LANDS**

The following summarizes issues and requirements expressed by members of the community during the hearings preceding the development of the 1985 Churchill County Policy Plan for Public Lands. As is often the case, there was not unanimity in the desired policy direction.

1. Need for land near Fallon to be made available for urban expansion.
2. Desire for the encouragement of industrial land uses, including mining and geothermal, on federal lands.
3. Need for utility and transportation corridors to reach the industrially developed lands.
4. Desire for allocation of specific sites on federal lands to be designated and developed for specific recreational uses - off-road vehicle racing, camping.
5. Desire for the continued improvement and promotion of facilities at specific recreational sites - Lahontan reservoir, Sand Mountain.
7. Opposition to any areas being designated as "wilderness."
8. Desire to continue support for the management of Stillwater National Wildlife Refuge for wildlife purposes.
9. Desire to protect other unique areas or special features - Grimes Point, Soda Lake, Pony Express Trail, tufa formations, earthquake scarps and cultural features.
11. Desire for additional wood cutting areas.
12. Closures or vehicle restrictions of public lands.
13. Maintenance of existing network of roadways and vehicle trails across public lands.
14. Environmental regulations that restricts development and use of public lands in Nevada and Churchill County.
15. Acquisition and transfer of private lands to public lands in Churchill County to create additional private land base outside Churchill County.
16. Areas available for geothermal development on public lands.
17. Consolidation of railroad lands into federal ownership and management.

## 15. POLICY PLAN FOR PUBLIC LANDS

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### REFERENCES:

1. "Nevada Statewide Policy for Public Lands", developed by the counties and cities of Nevada and the State Land Use Planning Agency under authority of Senate Bill 40 of the 1983 Nevada Legislature (NRS 321.7355).
2. "Rangeland Reform '94" prepared by the Department of the Interior Bureau of Land Management.





# CHURCHILL COUNTY

Planning - Zoning - GIS - Code Enforcement -  
Business Licensing


Mission & Function	Planning Commission	Business License
Current Price Guide	Water Rights	Policies/Procedures
Map & Maps Schedule	Upcoming Agenda	Forms & Links
	Code Enforcement	
	Questions/Answers	

## Mission ♦ Vision ♦ Purpose ♦ Function



Click here to download the new  
**DUST CONTROL HANDBOOK**  
for Churchill County, Nevada

**UPCOMING EVENT:**

We have scheduled an illegal dumping clean-up for East of Hillsboro Blvd. on Saturday, April 14th at 8:00 a.m. Click here to [DOWNLOAD A FLYER](#) , and help us promote this event.

On September 20th 2006 the Board of County Commissioners approved Bill 2006-G (Ordinances 11, 16, 22, 30 and 32) amending portions of Title 16 Consolidated Development Code. Click here to view a copy of the code..[Click here for details and a downloadable copy of the bill.](#)

The Planning Department encompasses current and future planning, GIS coordination, business license administration and enforcement of codes pertaining to zoning, health and safety.

Our mission is to provide guidance to community leaders to manage growth responsibly to ensure we maintain a high quality of life and a sustainable community.

We strive not only to serve the public as professionally and expeditiously as possible but also to provide assistance and support to other County Offices.

It is our goal to provide an efficient and friendly local service of government that is accessible to everyone.



Eleanor Lockwood  
Churchill County Planning Director  
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Churchill County Master Plan





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## Churchill County Master Plan, 2005 Update

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Monday - Friday from 8am to 5pm

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